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THIRD ARTICLE.

PREPARED FOODS.

INFANTS' FOODS.—Of the artificially-prepared foods, those intended as substitutes for mothers' milk are by far the most numerous and important. They are most conveniently classified under the three heads of *Farinaceous Foods*, *Liebig's Foods*, and *Milk Foods* (excluding condensed and prepared milk, of which we have already spoken).

Among the Farinaceous Foods, the following deserve consideration:

Blair's Wheat Food.—It is said that this is prepared from choice wheat in such a manner as to retain only the nutritive and unobjectionable constituents, and also that by cooking, such physical and chemical changes have been brought about as to facilitate mastication and the subsequent action of the fluids of the stomach, thereby making the food more digestible. It is stated to be especially beneficial in intestinal diseases. When cooked according to directions it is quite palatable without the addition of salt, sugar, milk, or other accompaniments.

Hubbell's Wheat Flour.—This is said to include all the flesh-forming constituents, earthy and saline elements of the grain, with only a portion of the starch and of the silicated coating. It is particularly rich in nitrogen. The process of baking to which it is subjected converts a large portion of the starch into saccharine bodies. The soluble carbohydrates are considerably more than doubled, thus adding greatly to the dietetic value of this prepared food. There is also a considerable increase in the percentage of albuminoids.

Imperial Granum.—This is a wheaten preparation, containing, according to Prof. Albert R. Leeds, 10.51 per cent. of albuminoids, with a very large proportion of starch. It is claimed, however, to consist principally of "gluten derived by a chemical process from very superior growths of wheat—a solid extract." We have found it of the greatest service in cases where the bowels were inclined to be loose.

Ridge's Food.—It is made from carefully selected

winter wheat, which having been reduced to an almost uniform fineness, is thoroughly cooked by a steam baking process, which gradually changes a large proportion of the starch into dextrine, excluding only the woody fibre. Like the Imperial Granum, it is very palatable when cooked. It is also affirmed that even when used without milk it is sufficiently nutritive to sustain life, and moreover, that "its soothing and satisfying properties are so marked as to cause customers to inquire if it does not contain some opiate."

The A. B. C. Cereal Cream and Milk are stated to be prepared from the choicest wheat and barley, the surplus starch being removed, and the mixture cooked by steam, desiccated, ground fine, and the requisite amount of sugar added—when an analysis is secured "almost identical with human milk."

Robinson's Patent Barley.—This is technically ground pearl barley, but Dr. Fowler says that the white color together with the mild barley odor, suggests the admixture of wheat flour. Prof. Leeds is inclined to regard the preparation as merely barley flour.

Under the head of Liebig's Foods, are the three preparations known respectively as *Mellin's*, *Horlick's* and *Hawley's*. These are dried foods and very sweet. Mellin's Food is almost entirely soluble and has an alkaline reaction, while that of the other two is acid. In all of them the percentage of fat appears from Prof. Leeds' analysis to be extremely low, that of grape-sugar very high. In Horlick's and Mellin's there is no unconverted starch; in Hawley's, eleven per cent. The percentage of albuminoids is relatively small in each of them, but this circumstance has not the same significance as it has in the case of farinaceous foods. The virtue of a Liebig's Food resides in its not containing starch, but its products of transformation, gum and dextrine, together with sufficient bicarbonate of potash to make the reaction of the infant's food, like milk, always alkaline.

In *Savory and Moore's Food*, according to Prof. Leeds, "the process of conversion has not been effected, nor can it be when the food is prepared according to directions," and, therefore, he denies that it is a Liebig's Food at all. On the other hand, its proprietors call attention to the following as its chief points of excellence:

First.—The rapid and complete conversion of the starch at the time of mixing into the soluble assimila-

able products of maltose and dextrine. The point of the gelatinization of the Food—viz., 140° F.—is just that at which malt diastase is most active, and the conversion of the starch is consequently the work of a very few minutes only.

Second.—The retention of the phosphates and the vegetable caseine, fibrine, and albumen (these being lost in the soluble sweet malt extract foods).

Third.—The absence of the added sugar, which in the various sweet foods so often gives rise to diarrhoea and flatulence.

Fourth.—The albuminoids are not predigested, but rendered easy of digestion, leaving, as in human milk, just sufficient work to strengthen and develop the immature digestive powers.

Baby Sup, No. 1, is a very sweet, partly crushed whole oatmeal, prepared from malted grain. *Baby Sup, No. 2*, consists of wheat flour, malted barley, and bicarbonate of potash, in the proportions given in Liebig's formula. "These foods" (says Prof. Leeds) "are commendable efforts to carry Liebig's views into practice. It is to be regretted that a certain amount of care and time is required to properly cook them, and, for this reason, they will probably have only a restricted use. In Mellin's, Horlick's and Hawley's Foods this care and time have already been expended by the manufacturers, and experience has shown that few mothers or nurses can or will take so much trouble."

Keusbey and Mattison's Food.—This is stated to be an extract prepared from malted grain, dextrine, alkaline phosphates, etc., and to be perfectly free from starch. It is not strictly a Liebig's Food, but in reality a neutralized extract of malted barley. The sample of this food which Prof. Leeds analyzed appeared to contain no albuminoids whatever; but he admits that "certain extractives" must be present in order to explain "the undoubted benefits frequently conferred by the use of this food."

We now come to the Milk Foods. These articles have been prepared in order to supply a food which should contain the constituents of milk to a certain extent, and yet should be free from the objections to which condensed milk is liable. All of them consist of cereals specially prepared in combination with milk. The first manufactory of this food was established by H. Nestlé, in Vevey, Switzerland. The basis of his product is stated to be choice milk from Swiss cows, concentrated in a vacuum at a low temperature, so as to preserve its rich valuable qualities unchanged. With this concentrated milk a little sugar and some specially prepared wheat are then thoroughly incorporated. The wheat used contains its nutritious constituents in a very soluble and most available condition, and the food, when its preparation is complete, is found to be of the highest nutritive

value. It has received quite an official recognition in Paris, and has been spoken of in the highest terms by the Medical Directors of the Maternity and Infant Hospitals in the other European Capitals.

The other milk foods in the market more or less resemble Nestlé's in their composition. All of them, according to Leeds, have the same points in their favor—a high percentage of albuminoids, fats and salts, this being especially true of the American-Swiss. The conversion of the starchy matters into dextrine by previous baking gives to this class of infants' foods the advantages of that class of prepared cereals which have been rendered easily assimilable by a process of previous torrefaction. The advantages and disadvantages arising from the addition of condensed milk have been already mentioned in speaking of this aliment.

Prof. Leeds, in his valuable little treatise on infants' food, from which most of the foregoing quotations have been made, thus summarizes the points he has endeavored to establish:

First.—Cow's is in no sense a substitute for woman's milk.

Second.—Attenuation with water alone is inadequate, and chemical metamorphosis, or, mechanically, the addition of some inert attenuant is required, in order to permit of the ready digestibility of cow's milk by infants.

Third.—The utility of manufactured Infants' Food is to act as such attenuants, and as such they take the place of the simple barley and oatmeal water, the sugar, cream, baked cracker, arrowroot, etc., etc., used in former times.

Fourth.—The results of both chemical and physiological analysis are opposed to any but a sparing use of preparations containing large percentages of starch.

Fifth.—It is eminently probable that besides acting as attenuants, the matters extracted in the preparation of barley and oatmeal water, and still more the soluble albuminoid extractives obtained at ordinary temperatures (whereby coagulation is prevented) by Liebig's process, have a great independent value of their own. For this reason, instead of employing starch, gum, gelatine, sugar, etc., the use of a natural cereal extractive, containing saccharine and gummy matters and soluble albuminoids as well, such as our great and inspired teacher Liebig himself advocated, is in accordance with the developments of science since his time.

Sixth.—The use of a food made up of equal parts of milk, cream, lime-water, and weak arrowroot water, as practiced for years by the late Dr. J. Forsyth Meigs, and recently advocated by his son, Dr. Arthur V. Meigs, is sustained by theory, analysis and practice. It provides for the increase of fat to

an amount comparable to that contained in human milk. It adds alkali to permanent reaction, and to convert caseine into soluble albuminates. It adds a little bland attenuant. And if, in addition, the amount of milk-sugar were raised, and instead of arrowroot water, barley or oatmeal water were substituted, as the case demanded, it would approach, it appears to me, still more nearly to the conditions required.

Seventh.—The perfect solution of the present problem is to be found in the modification of cow's milk by chemical processes, so as to make it physiologically equivalent to human milk. The nature of these processes and the results to be obtained are at present so nearly wrought out that there is good ground for believing that such a solution of this problem is not far distant in the future.

The "solution" spoken of in the last of these conclusions appears to have been already arrived at by adopting the idea—first brought out by Pfeiffer, of Wiesbaden—of peptonizing the milk. Cow's milk, as we have seen, is apt to disagree with the infant on account of definite chemical, physical and physiological differences that have been accurately ascertained, and that we have now the means largely to overcome. Let ordinary cow's milk be diluted with water, that has previously been boiled to destroy all germs, until its percentage of albuminoids has been reduced to the proper amount. Next add to it enough cream to make up the fat, and some sugar of milk. Then peptonize it with reliable extract of pancreas for the alteration of the caseine, and there is produced the best physiological imitation of mother's milk.

Such a "humanized milk" is yielded by the *Peptogenic Milk Powders* for which the profession and the public are indebted to the Messrs. Fairchild Brothers & Foster. The formula for its composition and the exact method for effecting the requisite changes in cow's milk were supplied to this enterprising firm by Prof. Leeds, who has also made repeated analyses of the manufactured product, from which it appears that :

"It is the only one of the class of infants' foods containing a principle capable of digesting, or in any way converting caseine into a peptonized form."

The digestive agent used to effect this is itself an albuminoid substance (minute in quantity), and entirely innocent in its nature.

When taken into the stomach with the milk in an active form (as in "Directions No. 1") it will there aid in the digestion of the food, and then is itself absorbable, as is well known to be true of digestive ferments.

If, after its action has been utilized artificially in effecting the exact modification of the caseine de-

sired, its vitality be then destroyed by the boiling temperature—as in "No. 3"—it then becomes simply a food substance, and is no further a factor in the digestive process.

The digestive agent, then, it will be perceived, possesses properties which may be controlled at discretion, as may prove most serviceable in each particular case. In fact, the humanized milk may be so prepared as to precisely adapt it to the requirements of each infant by simply regulating the time allowed for this pre-digestion.

The Peptogenic Milk Powder is one of the foods which supplies the deficiency of sugar with the peculiar sugar obtained from milk itself, an expedient obviously sensible and scientific.

It is said to be absolutely free from starch, malt sugar, glucose or cane sugar—substances of which some of the infant foods of the market are largely composed.

Jordan's Bethlehem Oat Food is undoubtedly the oldest of the food preparations for infants now before the public. It appears to consist altogether of oatmeal, to which milk is added in cooking—and is advertised as embracing in its composition "that which makes bone and muscle; that which makes good flesh and blood; that which is easy of digestion—never constipating; promotes the friendly action of the brain, and prevents internal disorders incident to childhood."

Grainlet.—This is an excellent preparation of the whole wheat, in which the berry is thoroughly scoured and cleansed, imperfect grains removed and then ground finely, so that it may be cooked ready for the table in five minutes—a great desideratum sometimes. As is well known, wheat is a most important food for human beings, holding the proximate principles of healthy nutrition in suitable proportion, and should be easily digested and assimilated.

Grainlet is said to contain all the gluten of the wheat, the importance of which is readily understood by physiologists at the present day.

It has been already mentioned as one of the chief disadvantages of condensed milk and of many infants' foods, that the cane sugar which enters largely into their composition has a tendency to produce fermentation in the stomach. For this reason the use of *sugar of milk* in the place of cane sugar has been recommended for many years by the best medical authorities, and with the happiest results. The principal element in woman's milk is the sugar of milk—a substance not only highly nutritious but possessed of medical properties that will prove of great value for the large class of infants that are predisposed to irritability of the stomach and bowels, as well as for many adults. The use of sugar of milk has been re-

tarded on account of the high cost and the adulteration of much of the product which is found in our markets. All attempts at the production of milk sugar in paying quantities in this country proved entirely unsuccessful, until the Powell Manufacturing Co. commenced their operations under the direction of Prof. A. H. Sabin. It is claimed that for purity and excellence the article which they are now producing cannot be excelled. In *Wells, Richardson & Co.'s Lactated Food* this milk sugar is said to be combined with "pure barley malt, the finest wheat gluten and the nutritious element of the oat, and then, by thoroughly cooking the mixture by high steam heat, such changes are effected as are sufficient to make the food a new substance which fulfils every physiological and chemical requirement." It is marked by "an entire absence of cane sugar; the coagulum which it forms with the fluids of the stomach is light and friable—unlike the hard coagulum formed by cow's milk;" and lastly, "the small amount of starchy matter remaining is wholly changed to a soluble form by the action of the diastase."

If these assertions are well-founded, and we have no reason to doubt them, the Lactated Food is certainly a very important addition to the resources of the profession.

Carnrick's Soluble Food.—The analysis of this preparation is claimed to show that its constituents are almost identical with an average sample of human milk.

FORMULA.—50 per cent. of the solid constituents of milk (the caseine being brought to a soluble condition by means of pancreatine).

50 per cent. of wheat (the starch of the wheat being converted into the soluble form of dextrine and maltose).

The caseine in this preparation is *almost perfectly digested*, and is therefore brought practically into the same condition as the caseine of mother's milk. It is well known that the caseine of human milk exists in a form very closely resembling a peptone, so that it requires but a small exercise of the child's digestive functions to prepare it for assimilation, and for this reason cow's milk alone has not been found a proper substitute for human milk.

Amé, which has been long and extensively used in Japan as a food for feeble or hand-fed infants, or the aged, is made from the male rice, called mochi game, which contains much more gluten than ordinary rice. It is in great part saccharine, and belongs to the group of accessory foods, sometimes classed as hydro-carbons; the function of which, in the animal economy, though not perfectly understood, is certainly connected with the formation of fat and the maintenance of animal heat. While bearing a close resemblance to the so-called "malt-extract," it is superior to the latter in more than one

respect. The flavor of *amé* is to most palates, even to Europeans, exceedingly agreeable, and it may be eaten day after day for many months without exciting disgust. It is not only digested in cases where the stomach refuses to act upon even the most delicate and approved nutriment, but it exercises a distinct and considerable converting power upon other and varied foods, performing the same office as pepsin, pancreatine, hydrochloric acid, and the like, but with far greater certainty. As a therapeutic food, *amé* ranks very little below cod liver oil, and perhaps it will, eventually, be found to stand even higher; the more so, as it is open to none of the objections which so often interdict the use of the oil. To feeble infants, *amé* may be given safely and with advantage, either pure or in combination with other food.

Meat Preparations.—These consist of meat extracts and peptones. Of the former class, *Liebig's Extract of Meat* was the earliest representative, and may be taken as a type. The true character and uses of this well known article—as a stimulant rather than a food (it has been aptly termed wine of meat)—have been already dwelt upon. Superior claims as to nutritive value are advanced in favor of *Johnston's Fluid Beef*, which is shown by microscopical examination, to consist of good sound beef, ground to a very fine powder, and is recommended as containing "all the elements of flesh food, in a concentrated form, very palatable, and easily digested, and eminently suited for dietetic purposes, especially for invalids."

The *Fluid Beef Extract*, made by Cibils Bros., of Buenos Ayres, is said by its advertisers to embody "the latest discoveries and improvements in the art of extracting and concentrating the strength, nourishment and flavor of fresh beef."

Three great advantages over the solid or pasty extracts are claimed for this new product:

"First—The avoidance of over cooking, which is more economical in the amount of product obtained from a given quantity of beef, as many valuable ingredients, destroyed in the severe later stages of solid-extract cooking, are saved in this.

"Second—The close analogy, if not exact identity, in taste, color and flavor of the soup made from this extract with that obtained from best butcher's chopped beef, boiled down very strong.

"Third—Utmost digestibility."

Valentine's Meat Juice is recommended on much the same grounds, as being "a concentrated fluid extract of meat, in preparing which great care is taken not to raise the temperature sufficiently to coagulate the albumen, or to cause the loss of the volatile principles of the meat. After the juice is extracted and strained to free it from every particle of solid matter, it is concentrated *in vacuo* to the specific gravity of 1.025; the resultant product being a beautiful, wine-

colored liquid, of the consistency of syrup, rich in nutritious matter and easy of digestion—a perfect food for the most capricious and delicate invalid. A two-ounce bottle contains the concentrated juice of four pounds of the best beef, exclusive of fat and gelatine."

According to an editorial article in the *Atlantic Journal of Medicine*, "in preparing Valentine's juice for immediate use, neither hot water nor alcohol should be used, as they coagulate and precipitate the albumen. We are advised to abstain from mixing acid with the juice for the same reason. In cases where an acid is prescribed, we are of the opinion that it should be administered a short time after the juice. Formerly, warm water was always used as a vehicle for the juice; and although it is said to be more palatable when prepared warm, yet patients soon acquire a taste for it cold and prefer it so—consequently Mr. Valentine advises that cold water be used as a diluent.

Meat peptones are distinguished from the foregoing extractive preparations, which necessarily contain only the soluble part of beef, by their embodying the entire nutritive product of the meat, from which the water has been previously evaporated. *Reed & Carver's Beef Peptonoids*, for instance, are stated to be composed of the dry lean of beef, one-third; the solids of milk, minus most of the fat, one-third; the gluten of wheat, one-third; the beef being partly digested or peptonized. Prof. Attfield's analysis fully supports this statement, since he finds present "between 69 and 70 per cent. of albuminoids, that is, flesh-forming material (nitrogen 10.94); more than 20 per cent. of warmth-producing substance, nearly half of which is milk sugar, and more than half fat; three per cent. of bone-forming phosphates; about two per cent. of other normal mineral matter, and about five per cent. of moisture. A sample of the constituent gluten submitted to me was practically pure, containing a mere trace of starch. Rather more than one-fourth of the albuminoids, probably the peptonized portion, was soluble; while practically the whole of the beef peptonoids was readily soluble in peptonizing fluids, showing that it is easily and wholly digested when taken into the stomach. The flavor and odor of the preparation are excellent; its thorough state of dryness fits it for keeping any length of time in any climate. It is by far the most nutritious of any concentrated food I have ever met with."

Leube and Rosenthal's Beef Solution likewise "truly represents lean beef with all its original constituents, except part of its moisture." Its merits have been fully attested by Prof. A. Jacobi and others, and its value as a nutrient is unquestionable. It will be found of great convenience as well as useful in many cases.

Rudisch's Extract Peptonized Beef.—The "sarco-peptones" of Rudisch are an extract of digested beef; the nutritive value of one part is equal to eight parts of fresh beef, and for many purposes—where pre-digested foods are indicated—is the best preparation with which we are acquainted. It is made from the best beef to be found, and from its manipulation it becomes a most pure and agreeable article of diet, of jelly-like consistency. The great majority of patients not only tolerate but are fond of it.

Since any food digested or prepared for assimilation is properly called a peptone—whether it be an oily, starchy, or albuminoid substance—the claims of *Maltine* and the *Malt Extracts* demand our notice in this connection. The Maltine manufactured by the Maltine Manufacturing Co., of New York, bears a high name, and this has been still further emphasized by the award of the gold medal of the Health Exhibition, London. Prof. Charles R. C. Tichborne, after an examination of the principal unfermented extracts of malt in the market, finds that Maltine is the richest in two of the most important of ingredients in these foods—namely, the phosphates or bone-formers, and that peculiar farinaceous digestive agent called diastase. Maltine may be said to consist of about 80 per cent. of pure food in its most concentrated and assimilable form. This 80 per cent. may be divided as follows: five and a half per cent. of flesh-formers, seven per cent. of heat-givers, two per cent. of bone-formers; add to this the diastase, which imparts to it the curious power of digesting all farinaceous food outside itself, and we have in Maltine a most valuable adjunct to our invalid diet. In respect to the diastase, Maltine seems remarkably energetic, and at the temperature of the human body one part liquefied 20 parts of starch in two minutes, and had completely changed or digested that body in about an hour. Maltine possesses all the characteristics of a cereal extract as prepared from the grain, and there can be no question about the genuineness of this preparation. It is only necessary to consult any work upon dietetics to see that there is considerable difference in the composition of the various grain crops. By combining these three important substances—barley, oats and wheat—a food is obtained which represents the average composition of the three cereals, and that food already digested for use, a condition of immense value to the physician in those special cases where the digestive functions are impaired."

Peptonized Cod Liver Oil and Milk.—"Among the many preparations of cod liver oil," says *London Health*, "which of late years have made bids for public favor, peptonized cod liver oil and milk must be regarded as claiming a place in the first rank. The special features of this preparation consist in the fact

that it is composed of nearly equal proportions of pure cod liver oil and condensed milk; while, with the view of obtaining the best effect of the remedy, and of securing its easy assimilation, its elements have been predigested or peptonized. The action thus developed in this preparation is practically tantamount to anticipating the action of the stomach in digestion, and to thus saving digestive labor as represented by the work of the ferments of the gastric juice. It is, of course, well known that cod oil cannot be assimilated by many persons, owing to the acid eructations which follow its use; such patients being thus deprived of a most valuable remedy, and one without equal in the cure of many grave diseases. The ingenious combination of Reed & Carnrick under notice, effectually removes this source of objection to cod oil, while the nutritive value of the oil is increased by the addition of milk to a high extent. This oil possesses a thoroughly agreeable taste, resembling that of cream, so that the youngest children take it readily, the oily flavor being hidden by the digested milk; while, in consistency with the occasional demand for lime-salts, etc., as curative of bone and other weaknesses, this oil, it may be added, can also be had prepared with the hypophosphites of lime and soda." Many "emulsions" of cod liver oil, it should be added, are found to contain a very large percentage of water, whereas in peptonized oil and milk, condensed milk is used in place of water, the milk being reduced *in vacuo* in the course of manufacture.

To those persons whose stomachs refuse cod oil in other forms, we can cordially recommend this peptonized preparation of Reed & Carnrick. It is, without doubt, an elegant and altogether reliable preparation, the use of which cannot fail to give the best effects of cod oil in combination with nutritive qualities of a high order.

ALCOHOL FOR REST.—It is now urged that alcohol is sought after and demanded, not for stimulation, not for exaggeration, not for ravenous lust, but for repose, quiet, and rest. The relentless unrest of the constitutional neurotic; the ever-acting erethism of the weakened and poorly-nourished nervous system; the agonizing appeal for repose which goes forth from the neurasthenic—ever thinking, and with no power to rest or change; these are some of the conditions hurrying the mind to insanity, which turn to anaesthesia and to alcohol for help. They seize upon strong drink as their best and only friend. It is a great step towards unveiling the truth to recognize the fact that anaesthesia is, indeed, that property of alcohol which is paramount in importance; and it is a substantial advancement to discover that the soothing property of alcohol is that which so imperiously demands the homage and worship of the helpless neurotic. This vindicates, to some extent, the manliness even of disease, for it shows that it is not always the riot of lust, or the satisfaction of inordinate and maniacal stimulation, which incites the inebriate when he seeks intoxication.—DR. WRIGHT, in the *Alienist and Neurologist*.

SOME OF DR. GREGG'S THEORIES.

BY ELDRIDGE C. PRICE, M.D., BALTIMORE, MD.

"Smoking, too, is a remedy which can be employed at all times; we can enjoy this healing Virginia herb from early morn to late even. Like the vital air, we can breathe it in all times, places, conditions and companies. Is one anxious at heart, deaf, joyless, *malade*? weak, torpid and stiff with scurvy? has one pain in the head, eyes, teeth, or anywhere? is the sight weak or dim? is one sleepless? has one colic, gout, stone, itch, thinness, corpulency, flatulency, worms?—the smoke of the Virginia tobacco is the true remedy against all these disorders, which are the twigs, and leaves and fruit of scurvy; while, at the same time, this glorious healing plant, tobacco, eradicates and destroys the hidden roots of the tree of scurvy, whence all diseases shoot."—"A Short Treatise on Human Life," etc., by C. Bonteke.

PROBABLY no man is more deeply interested in the germ theory and the various forms of bacteria than Dr. Rollin R. Gregg, of Buffalo, New York, and yet he is apparently convinced that Pasteur, Tyndall, Koch, *et al.*, are egregiously mistaken, and for some years past have been most industriously teaching a lie.

Although Dr. Gregg may count as nothing the investigations of these men, there are others, probably, capable of forming an opinion too, who seriously consider the germ-theory postulates as unrefuted by Dr. Gregg's sophism.

The "Bacterial Glossary," in THE NEW YORK MEDICAL TIMES, for last February, certainly shows ingenuity and considerable labor, and the profession should consider itself under an obligation to Dr. Gregg for the compilation. (It will be less difficult now than formerly to understand what form of bacteria is under consideration when the Doctor refers to his rotting fibrin in its various stages of decomposition.)

I do not intend to cast a slur upon the labors of Dr. Gregg, nor do I wish to undervalue any good that may result from his work. If his cause were to be judged from his logic and from his conclusions, no man could deny the correctness of his hypotheses; but his fault is a double one—the assumption of untenable premises and unscientific methods of experimentation. Or, more precisely, he bases his premises upon experiments unscientifically, carelessly conducted. I merely judge from his writings.

A statement of Dr. Gregg's latest theory is to be found in THE NEW YORK MEDICAL TIMES for March, of this year. The theorist says: "In rotting fibrin I have found many strange and unexpected things." So did Tyndall and Pasteur. Among these wonderful things is mentioned the *growth and building up* of "cell organizations" in this "rotting fibrin." "In the midst of life we are in death," but here is the encouraging converse of this proposition, "in the midst of death we are in life." This, truly, is a "strange and unexpected" thing.

Is it true? Is it true that in the plastic constituent of our blood we carry with us an infinitude of organisms that have an independent vital power, and that it is to these entities run wild that all the ills to which flesh is heir, are due? or is Dr. Gregg like the astronomer whose zeal for discovery converted the lightning bug into a new planet? Are these organisms fibrin or are they bacteria?

After stating that changes occur in fibrin every seven days, and after citing the fact that the critical days of disease occur at the same intervals, the conclusion is drawn that these septenary periods of increased activity in rotting fibrin are the cause of the critical days of disease. This may be, or it may not be. So far as Dr. Gregg's argument is concerned, we may as reasonably conclude that these crises are due to the growth of bacteria. The door to doubt has been left open, either by carelessness in the *method* of the experiments, or in the indefinite and unsatisfactory *description* of the experiments.

Dr. Gregg neither tells us whether he does or does not adopt any precautions to prevent the ingress of the air to the fibrin during the time he is observing its "rotting," nor does he say whether he suspected a relation between the rotting fibrin and the critical days of disease, before or after his experiments; whether the experiments were the result of the theory or the theory the result of the experiments. The theory is unquestionably ingenious, but Dr. Gregg has not proved its truth—he has merely suggested its possibility.

More than three years ago, I asked Dr. Gregg a few questions in a private communication. Certain sufficient reasons, which I appreciate, have, to the present date, prevented an answer to them; but believing the time to have arrived when, if for nothing but his own reputation as a theorist, Dr. Gregg should solve my problem, I again lay the most pertinent of my old questions before him for a solution. As a preface to my inquisition I will quote from Gregg's "Diphtheria," page 27: "The proliferation of epithelial, connective tissue, and other cells of the normal tissue surrounding diphtheritic patches or exudations, is caused by the same condition that causes the excess of fibrin to be left in the blood. That is to say, the loss of albumen necessarily leaves an excess in the blood of the material out of which all the cells named are grown, and this blood, so over-loaded with both fibrin and cell-growing material, when congested in any part, as in the tonsils or other parts of the fauces, in the mouth, nose, etc., in diphtheria, pours out into the tissues the diphtheritic membrane, the latter to grow all the cells that it naturally feeds in excessive numbers. Can anything be more rational, logical and natural?"

Query 1.—It is supposed that fibrin is simply oxygenized albumen; when, therefore, albumen is abstracted from the blood will there not also be a proportionately less quantity of fibrin formed? Of course there may be, at first, an excess of fibrin, but as the albumen continues to be excreted, why should we expect a greater proportionate increase in the fibrin after the first formed surplus?

Query 2.—Given, a case of diphtheria of two or three hours' standing. The first symptom manifest is a patch in the throat. Previous to this there has been no throat trouble, the fauces have been perfectly healthy; neither has there been disease of any organ or tissue. How, then, does it happen that the patient has diphtheria when there has been no abnormal loss of albumen?

Query 3.—Does fibrin ever coagulate in shreds, or rod-like particles, without having first started to coagulate in spheroids? and are the so-called rod-like bacteria ever (or always) attached to the micrococci?

Query 4.—Why will fibrin coagulate more readily when albumen is abstracted from the blood (as is assumed) than when some of the other constituents are absent? and why is it that in Bright's disease there is more danger of death from uræmia than from emboli or thrombi?

Query 5.—Although we acknowledge that evil may result from the use of topical applications in diphtheria (*must*, almost of necessity, according to "Diphtheria," pp. 120 and 121) how are we to account for those cases of diphtheria that have recovered under local treatment without sequelæ of any kind?

To the above queries I will add one more: Does Dr. Gregg, in his experiments with fibrin, use all the precautions to exclude atmospheric air from his specimens that have been adopted by bacterists? and does he find that fibrin will answer to the stains used for bacteria?

The average observer of scientific progress soon learns to reject dogmatism and turn a deaf ear to mere assertion. Reiteration proves nothing, but only serves to weaken the original statement by the weight of verbose accumulation. If Dr. Gregg has really discovered so many truths concerning fibrin, and can satisfactorily prove as much, it is a duty he owes himself as a scientist, and it is also his duty to the scientific world, and to the general medical profession, to cease simply asserting his opinions and exhibit his proofs.

TAPE-WORM.—Dr. R. O. Barker, of the Sandwich Islands, expels his tape-worm entire by giving a mixture of chloroform $\frac{3}{4}$, honey $\frac{3}{4}$, a teaspoonful every two hours, without fasting, following the whole by a rousing cathartic.

CLINIQUE.

A CASE OF COMPOUND COMMINUTED FRACTURE OF THE FRONTAL BONE—TREPHINING—RECOVERY.

By E. R. CORSON, M. D., SAVANNAH, GEORGIA.

ANTHONY ALLEN, colored, æt. 29 years, came to me on Christmas day (1884), with a compound fracture of the frontal bone, just above the left frontal eminence. He was too drunk and too much stunned to give me any history of the case, and all I learned from the friend who accompanied him was, that he had been struck with a brick that morning while wrestling amicably with a companion. The skin was broken, there was a large extravasation of blood, and a small vessel was bleeding freely, to check which I introduced one stitch, applied a simple water dressing and sent the man home.

Two days later (December 27th), I was sent for to see him, the patient having passed into a semi-comatose state. At intervals he would brighten up and get out of bed and sit by the fire, but even then the face had a stupid look, and he answered all questions put to him in monosyllables. The effusion under the scalp had gone down, revealing a marked irregular oval depression of an area about equal to a silver dollar. There was a sanious discharge from the opening in the scalp. His pulse was 100, full and strong, and his temperature in the mouth 100°.

I called Dr. L. A. Falligant in consultation. It was decided to elevate the depressed bone. The patient was etherized, a crucial incision made over the depression and a trephine applied at the upper extremity of the fracture two inches from the median line. On removing the button of bone, which showed I had trephined over the coronal suture, the fracture was found to be comminuted, with both tables broken up into small fragments, the sharp spicules of which were sticking into the dura. On using the elevator the depressed bone broke up into small pieces. Fourteen small irregular fragments were removed, the irregular edges smoothed off, a small clot on the dura washed off, and the four flaps stitched at the centre to keep them in position with thorough drainage at the angles of the wound, and dressed with a one-per-cent. carbolic solution. The ether was given at 4.30 P.M., and the operation finished and the patient comfortable in bed by 5.30. Aconite was given every hour.

The next morning (December 28th), the temperature had dropped to 99½° and the pulse to 76. At 5 P.M., temperature 99¾°, pulse 88; patient comfortable and answers all questions intelligently; the improved mental condition is very apparent.

December 29, 11 A.M., pulse 102, temperature 99½°; 5 P.M., pulse 96, temperature 101°; edges of the wound much swollen; the stitches removed,

and the parts thoroughly irrigated with the carbolic solution through a Goodyear's syringe.

December 30, 10.30 A.M., pulse 92, temperature 101°; P.M., pulse 86, temperature 102°. December 31, A.M., pulse 77, temperature 100½°; P.M., pulse 76, temperature 100½°. January 1, 10 A.M., had three slight convulsions during the night; pulse 90, temperature 100°. Ordered bromide of potash, gr. xxx., and chloral hydrate, gr. xv., every three hours. At the afternoon visit his pulse was 77 and temperature 100½°. January 2, A.M., temperature 98½°, pulse 86; laudable pus from the wound; P. M., pulse 84, temperature 99¼°; had one slight spasm since morning visit; the patient is morose though anxious about his condition. January 3, A.M., pulse 84, temperature 98½°; had three slight spasms during the night. I did not see the patient in these convulsions but the attendant, an intelligent colored man, described them as general, though lasting a few minutes only.

January 4, A.M., pulse 90, temperature 98½°; wound granulating. From this time the fever and convulsive symptoms ceased; the bromide and chloral stopped. The patient at no time complained of much pain. The wound was kept thoroughly irrigated with the carbolic solution and no pus was allowed to collect. The wound healed rapidly and the patient's appetite and strength returned. His disposition has entirely changed; he is morose and irritable and quarrels constantly with his wife despite her every endeavor to please him and make him comfortable. On several occasions he sprang at her and would have injured her had he not been restrained, so that she was obliged to keep out of the room. She informed me that he had always been kind to her and more devoted than usual with men of that class. He imagines she has designs against him and wishes to injure him. To others he shows no antipathy and patiently submits to the dressing of his wound. He has all the symptoms of melancholia. He wishes to be alone and locks himself in when he gets a chance. The pupils are equal and react to light; he is quite deaf in the left ear and partially so in the right; the drums are intact. The wound had entirely closed by the end of the second month, though his mental condition had not improved. The cranial opening was covered by a dense membrane with a fontanelle pulsation.

He went into the upper part of the State to visit his parents and I have not seen him since, though I have heard that his mental condition remains the same. The fragments of bone when dried weighed two drachms and twelve grains.

In the above case operative interference seemed to me to be absolutely called for. There existed a compound comminuted fracture with marked depres-

sion, and loose pieces of bone pressing upon the dura. The principles of treatment were, the removal of all depressed and broken bone, thorough drainage and cleanliness. The impairment of mind which followed was evidently a result of the primary concussion and molecular demoralization of the brain substance. It is not an uncommon occurrence in such cases, though our knowledge of cerebral physiology and pathology fails yet to make clear the changes wrought by such a shock to the thinking machinery.

The indications for the use of the trephine in gunshot and other injuries of the cranium are not as clearly formulated as we could wish, and we find authorities widely differing as to the advisability of trephining or any operative interference.

In the early part of this century that great and careful surgeon, Sir Charles Bell, laid down rules for guidance which hold with almost equal force to-day. He writes: "The trephine is applied, *First*. To prevent the depressed and irregular bone from becoming a source of irritation to the membranes, and consequently to the brain itself; the effect of which we have already explained. *Second*. To remove the dead portions of the bone, when the dura mater has separated from it, and matter lies upon that membrane. *Third*. To evacuate blood effused between the bone and dura mater. *Fourth*. To enable us to raise great depressions of the skull, which are oppressing the brain."

And further on he continues:

"When there is fracture and depression, without any urgent symptoms, the general rule is to trust to a natural process for relief. I must say, however, that by the concurring opinion of several eminent men, this rule may be carried too far, and I am of this opinion, although I look upon the operation of trepanning as a very serious injury."*

Baron Dupuytren, in 1839, in his *Leçons Orales de Clinique Chirurgicale*, writes: "Is it not a striking proof of the difficulty of this point in practical surgery, that the diversity of opinion exists on a subject which has engaged the attention of the most talented men with the best opportunities for observation? This is apparent on reading the ancient, modern and contemporary authors, and on seeing the most celebrated contemporaries of all countries profess such opposite opinions; on seeing, in England, such a manifest opposition between Pott, an ardent partisan of the trephine, and Dease, its decided opponent, as well as Abernethy, Astley Cooper, J. Bell; when, on seeing, in Germany, Schumaker, Klein, Richter, Lang, Kern, and others, determined supporters or detractors of this operation; when in France, for a long time, the most distinguished sur-

geons ranked on the one side with Quesnay, who applies the trephine in all cases, and on the other with Desault, who never or rarely applies it; and when, finally, we see, in our day, the same difference of opinion on the question of this grave operation.

"New facts, observed with care and free from bias, are still necessary to answer this important question, which M. Velpeau has treated elsewhere in his thesis with such remarkable discursive talent. We must state, on our part, that the reasons which this author gives in favor of the operation of trephining, and the facts which he cites, have strongly broken our faith in Desault's standpoint."*

Pott's experience was unique and remarkable. He trephined for pus between the bone and the dura in eight cases, curing five out of the eight. The operation in his hands owed its success to his brilliant diagnoses.

The experience of Stromeyer favors strongly an expectant treatment. In 1849, after the battle of Kolding, he had eight gunshot fractures of the skull with depression and cerebral symptoms, and all recovered under expectant treatment. In the following year he had two more cases, two young surgeons, with gunshot fractures of the head with marked depression, both recovering under expectant treatment. Macleod mentions forty-one cases of fracture with depression treated expectantly by Stromeyer, with only seven deaths, one dying of typhus.†

Stromeyer's experience bears all the more weight with it when we remember that in his early professional career he strongly advocated the trephine.

Dr. Macleod, in his admirable "Notes on the Surgery of the Crimea," takes a most decided stand against the trephine, and argues forcibly for the expectant treatment. The two cases in the General Hospital where the trephine was employed died.

The use of the trephine in military surgery was well tested during our civil war, and nowhere can we find more carefully-recorded cases than in the "Medical and Surgical History of the War of the Rebellion." Dr. Otis gives the histories of ninety-five cases, in which the trephine was used, with a fatal termination; twenty-four cases which recovered, but presenting various degrees of disability, fifteen cases recovering sufficiently to resume their military duties; four cases which recovered sufficiently to be returned to modified duty in the Veteran Reserve Corps; six cases discharged, paroled or furloughed; thirty-six cases recovering with different degrees of physical disability, and discharged from service.

In 220 cases of formal trepanning, 95 recovered,

* *Leçons Orales de Clinique Chirurgicale* faites à l'Hôtel Dieu de Paris. Par M. le Baron Dupuytren. Paris: 1839. Tome VI., p. 181.

† "Notes on the Surgery of the War in the Crimea, with remarks on the Treatment of Gunshot Wounds." By George H. B. Macleod, M.D., F.R.C.S., Philadelphia. 1862. p. 173.

* "A System of Operative Surgery, Founded on the Basis of Anatomy." By Charles Bell. London: 1814. Vol. I., p. 388.

and 124 died; one undetermined, with a ratio of mortality 56.6 per cent.*

In the *American Journal of Medical Sciences*, 1867, Dr. S. W. Gross made a comparison between the results obtained in gunshot wounds of the skull treated by the trephine and by the expectant plan. "In 160 cases, where the trephine was employed, 97, or 60.62 per cent., perished, and in 573 serious cases treated by expectancy, 426, or 74.34 per cent., died. In 126 cases where fragments of bone have been elevated or extracted, or foreign bodies removed with the elevator, forceps, or Hey's saw, 70, or 55.55 per cent., were fatal. Comparing these statistics, we find in favor of the last-mentioned plan over the operations of trephining, 5.07 per cent. of recoveries. After all operations of every kind, the rate of recovery was 41.61 per cent. After the conservative or expectant plan only 25.26 per cent. lived, making in favor of operative interference 16.35 per cent. of recoveries." The above were cases occurring in army practice. In private and hospital practice, in this country and abroad, Dr. Gross collected the records of 252 cases of trephining, and found the mortality 133 or 52.77 per cent.; the death rate being less than that of army practice by 7.85 per cent.†

From this cursory review of the question, it may be seen that the indications for the trephine have not been definitely determined upon. Stromeyer's experience certainly seems to weigh heavily against the operation, and yet we can gather equally conclusive evidence from the other side. It cannot be doubted that with the vastly improved methods in antiseptic surgery the operation of trephining becomes less formidable, as all operations have become; and further, that the operation in civil practice has many advantages over that in military practice. The Crimean experience can have no weight, for, as pointed out by Macleod, the surgical and medical care of the army was deplorably wanting in many particulars. It may be laid down as a general rule, with few exceptions, that it is better to trust wholly to nature than to operate badly with no proper facilities for after treatment.

Fractures of the cranium by gunshot or other means should be in a great measure based upon the general principles underlying the treatment of fractures in other parts of the body. The question whether the fracture is simple or compound must influence largely our methods of procedure. Cases where the atmospheric air has no access to the broken bone are much more amenable to expectant treatment, and in the large majority of cases may be so treated. But where the fracture is compound,

and perhaps comminuted, with pieces of detached bone acting as foreign bodies, quite aside from any compression of the brain, the general principles of surgery would call for interference, whether the trephine be employed or not. In cases where the question is simply the relief or not of the compressed brain, we should certainly give nature every possible chance to recover herself, for we frequently see cases of depressed bone where alarming symptoms pass off without interference. And yet a patient should be warned of the possibility of an operation later should symptoms traceable to the injury show themselves.

One point, I think, may be regarded as settled, namely, that whenever the operation is justifiable the sooner it is done the better. As in every department of surgery, there must be as far as possible an accurate knowledge of the nature and extent of the injury, and this must be guided by the general principles of conservative surgery which recognizes the wonderful powers of nature in restoring her injured self. The surgeon who uses his trephine with these restrictions clearly before him will map out its sphere of usefulness in cranial surgery.

ERUPTIVE DIPHThERIA AND SCARLATINA.

By J. N. TAYLOR, M. D., CRAWFORDSVILLE, IND.

EXTREME conservatism is just as characteristic of the clinical teachings of to-day as dogmatic boldness was of that of a hundred years ago. So often has it happened that the conclusions of authority have been disproven, nay, even shown to be absurd, that the present generation of teachers, profiting by the mistakes of the past, have gone quite to the other extreme, and are in some instances chargeable with ignoring certain phenomena in disease more or less constant in their appearance, since to speak of such necessitates an opinion or an explanation not to be ventured upon when the ground is at all uncertain.

I have found in his "Compendium of Diseases of Children," that Doctor Johann Steiner, Professor of Diseases of Children in the University of Prague, makes mention of certain phenomena now and then occurring in both diphtheria and scarlatina, such as are rarely to be found in other writer's works, yet which, in my necessarily limited experience, I have met with more than once—once certainly—and in a most striking manner.

Thus on page 340, *vide* Scarlatina, he says that disorder sometimes takes on a diphtheritic character; and when it does so, a membrane may be formed that may spread over uvula and fauces, into the posterior nares, and downward into the larynx, œsophagus and stomach. He further says that conjunctival diphtheritis is sometimes an accompani-

* The "Medical and Surgical History of the War of the Rebellion," Surgical Volume, Part I., p. 309.

† Holmes' "System of Surgery" (American edition), Philadelphia, 1882, Vol. III., p. 477.

ment of scarlatina. In his diagnosis he says that it is possible to confound scarlatina with primary diphtheritis.

Dr. Eustace Smith, Physician to the East London Children's Hospital, says that it is important not to overlook the possible occurrence of diphtheria as a complication of scarlatina, and that he himself had met with a case in which it did so exist.

Many of you will remember a series of interesting experiments conducted some years since by Dr. Wood, of New York, and designed to demonstrate whether or not diphtheria is inoculable.

To this end he took a portion of diphtheritis membrane from the throat of a child, made therefrom a solution and injected it under the skin of rabbits. The results proved that not only is it inoculable, but also that sometimes, instead of diphtheria, it produces membranous croup and scarlatina.

Writers show that there must be a wide distinction between the two disorders from the fact that one attack of diphtheria rather predisposes to another, while scarlatina, as a rule, does not recur in the same subject. There is an incomplete form of scarlatina, however, that does repeat itself, and what is still more significant, it predisposes to another attack. Smith relates one such case occurring in his practice.

The case was that of a little girl aged seven years, who had a previous history of fever, desquamation and dropsy, and who subsequently contracted scarlatina and died. I call to mind in this connection the case of a girl, now residing in Crawfordsville, Indiana, who some three years ago was attacked with a disorder which every circumstance declared to be *scarlatina sine exanthemate*, from which she recovered with difficulty and only after a considerable time. Last Fall her oldest sister was attacked by a typical scarlatina, and at the time she was in the midst of her attack, the little sister mentioned above exhibited an indisposition, quickly followed by a slight fever, eruption and furfuraceous desquamation—the whole process being completed in a few days.

Dr. Smith further says, that sometimes scarlatina appears in an abortive form, in persons who are already protected by a previous attack; and that in every epidemic of scarlatina it is common to find cases of anomalous sore throat occurring in protected persons exposed to the infection. Such persons, he says, may communicate the perfect disease to those who are not protected.

From the above data it would appear, there is a relation between diphtheria and scarlatina other than accidental. May it not be that diphtheria stands in an incomplete relation, even though it be more virulent at times than is the fully developed dis-

order? Certainly, the resemblance is striking in some of its aspects; and especially so when the inflammation of the skin, characteristic of scarlatina fails to appear. But, to me at least, the strongest evidence in support of this hypothesis is that I derived from observation of certain cases that came under my charge, an outline history of which I herewith submit.

On August 12, 1882, I was called to the residence of S. B., located some three miles southwest of Crawfordsville, Indiana. On reaching his house, I found his oldest daughter, a girl of about 14 years of age, suffering from sore throat, severe headache and general malaise, which symptoms, I found, had made their appearance the previous night, accompanied by fever and extreme restlessness. An examination showed a temperature of $103\frac{1}{2}^{\circ}$, pulse 120, skin hot and dry, tongue furred. On examining the throat, I found the fauces, palate, uvula and posterior wall of pharynx swollen and inflamed. The tonsils were both much swollen and covered entirely with a dense yellowish membrane that extended downward till lost to view, and upward in the direction of the posterior nares. By the next day, the cervical lymphatics in the triangle of the neck were tumefied, and could be felt, with the end of the finger, like a string of beads underneath the skin. The submaxillary glands were also swollen and tender, the cellular tissue of the neck somewhat infiltrated. There was not much fetor of breath, nor were the posterior nares invaded. On the next day she exhibited a considerable degree of lassitude, and could take only liquid food on account of painful deglutination. These symptoms persisted with varying severity for about eleven days, when the membrane wholly disappeared, the redness and swelling gradually abated, and the patient entered fairly upon her convalescence. In the mean time, however, her sister, a child of five years, was attacked, and exhibited, in sequence, the same array of symptoms, save that here I noticed, for the first time, several small points of eruption.

There were six children in the family, three girls and three boys, and all were attacked in time, but with a different degree of severity. One of the cases was so mild as to require no treatment at all, the little fellow continuing his outdoor pursuits as usual. Another showed the same symptoms and in the same degree of severity as the second, save that the eruption was still more pronounced.

The last to be attacked was a girl of eleven years. Unlike the others, the initiatory symptoms, in this case, were pronounced chill, pain at the stomach and vomiting. Her temperature arose, in 24 hours, to 104° , her pulse to 130, and within 48 hours she was covered from head to foot with the smooth, uniform scarlet eruption of Sydenham, save that in the pec-

toral region there was superimposed a considerable number of miliary vesicles, gleaming like small beads upon the red background. Although the throat was swollen, red and painful upon deglutition, yet at no time did it exhibit a diphtheritic membrane. By this time the case had become so remarkable that I called in another physician, Dr. W. T. Gott, to see and examine them, and thus verify my own observations. Her symptoms seemed to reach a maximum of severity so quickly that by the tenth day she was entering upon that which in other disorders of a less treacherous character might properly be called convalescence, but which in scarlatina is still a condition uncertain of termination.

The desquamation that followed was the most thorough that I ever saw. Thus, upon the flexor aspect of the forearm, and extending from the elbow almost to the palm, the true skin was as completely denuded as though a severe burn or scald had been received.

A day or two after the defervescence I examined the urine, but could discover no albumen.

Before leaving these cases I will cite several other points of interest that may help to a further elucidation of them.

These children inherited scrofula from the mother's side of the house, and several times before this they had suffered from attacks of tonsilitis of more or less severity. The house in which they live is a very old one, and much decayed, through neglect to paint. The yard is a grassless one, the soil light and capable of holding water upon its surface for a long time. These are situated upon a hill side that slopes to the south. Further up the hill is the orchard, which, at the time I speak of, was used as a pasture for stock, in consequence of which the ground was much befouled. The natural drainage of this orchard was toward the well at the end of the house and still further down the slope. Now, as against the theory of contaminated drinking water as a cause of the disorder stands the fact that the father of the children and his brothers and sisters, an almost patriarchal number, were born and grew to maturity upon this place, and with an environment nearly the same as the present one, yet a severe sore throat with fever was wholly unknown among them, while upon the mother's side it was a common disorder.

At the time of my attendance upon these children, so far as I could learn, and my opportunities were good, there were no other cases of diphtheria or scarlatina in the neighborhood. The family is one singularly retired in its habits, neither visiting nor receiving visitors, and therefore, where the infection was obtained is equally a mystery to the mother and to the attending physician, unless, what the latter

more than half believes, is wholly true, viz., that the exciting causes of all maladies are of the fewest and simplest, and the various symptoms are but the expressions of character and idiosyncrasy.

BLOOD CHANGES RESULTING FROM DISEASES OF THE HEART AND LUNGS.*

BY J. W. DOWLING, M. D., NEW YORK.

IN opening his subject Dr. Dowling said: Although the heart and lungs cannot be included among the blood-forming organs, there are none in the body more directly concerned in its physiological conditions and when diseased in its pathology. He then reviewed the changes which take place in the blood in its passage through the lungs, and again in its circulation through the system at large, referring to the action of the heart by which the blood is distributed, and said that weakness of the muscular walls of the heart from any cause, obstruction at any of the cardiac orifices from insufficiency of their valves, or deformities producing constrictions of the orifices themselves, interfere with the normal flow of the blood current, and produce changes in the blood which are pathological, and through these changes derangements, either functional or organic, or both, of some or all of the organs of the body.

Any inflammatory condition of the lungs which will occlude the air vesicles, or any condition of the lungs which will interfere with their proper emptying of impure air, or with their proper reception of atmospheric air, or any obstruction to the blood current in the lungs which will prevent a proper interchange of gases in the air vesicles, will produce pathological changes in the blood, and through these changes, derangements of the various organs of the body.

He then took up in turn the various organic changes in the heart and showed how the blood current is interfered with in the lungs, and in the systemic vessels by each of the diseased conditions referred to. He considered the compensating effects of hypertrophy of the walls of the left and right sides of the heart, and showed how blood changes are kept within the bounds of passable health by this wonderful provision of nature. In some cases of disease of the aortic valves, this hypertrophy of the walls of the left ventricle is sufficient to fully compensate for the obstruction produced, but in mitral disease the case is different. Patients suffering with the latter are always short of breath on exertion; their lung capacity is always diminished, owing to the obstruction at the mitral orifice, which interferes with the emptying of the auricle above, the pulmo-

* Abstract of a paper read at the meeting of the American Institute of Homoeopathy, St. Louis, Bureau of Clinical Medicine.

nary veins and capillaries. The consequence is pulmonary engorgement, always at the expense of the air vesicles, whose capacity for air is diminished.

With a greater amount of blood in the vessels of the lungs than is normal, and a diminished quantity of air in the vesicles, the blood cannot be properly aerated, and is pathologically changed by the retention of poisonous substances which should be eliminated through the lungs. He then described the changes which take place as a result of the retention of carbonic acid, and showed that the red blood globules are changed in shape, and diminished in vitality and function. In aggravated cases of valvular disease the venous engorgement of the various organs is so great that their functions are materially interfered with. Nutrition will be impaired, owing to the over-distended conditions of the veins. There will be obstruction to the emptying of the thoracic duct, of course still further changing from the normal the condition of the blood.

The engorgement of the kidneys results in albuminuria, thus depriving the blood of a portion of one of its most valuable constituents. The distended state of the capillaries from feeble arterial current produces changes in their walls which permit the serum of the blood to percolate into the surrounding tissue, rendering the blood thicker and more liable to stagnate in dependent portions of the body. In addition to the loss of albumen from renal engorgement, owing to the function of the kidneys being impaired, urea and other toxic elements are retained in the blood, still further changing it pathologically.

The essayist then considered thrombosis as a result of valvular disease, attributing the coagulation of blood in the veins to the slowness of the current as a result of the obstructions at the cardiac orifices. He then showed how these thrombi become emboli and briefly considered embolism resulting from thrombi formed in the veins and in the heart itself.

Fatty degeneration and dilatation of the heart were then considered, and the effects on the circulation and the blood changes resulting demonstrated.

After reviewing the various congenital malformations of the heart, and their effects, the author took up the consideration of pulmonary diseases in turn—and showed how changes in the blood result from these diseases—and referred particularly to the absorption of the products of ulceration and gangrene, in pulmonary phthisis, and the condition of the pathologically changed blood in *this* disease, and to this change in the blood he largely attributed the anæmia, the functional disturbances of the various organs and the elevation of temperature.

Dr. Dowling closed his article by showing the effects of blood changes resulting from diseases of the heart and lungs on the various organs of the body.

THE ACTIVE PRINCIPLES OF ERGOT.—Recently, Dr. R. Kobert, of Strasburg, has made some important additions to our knowledge of this subject. He has investigated three bodies drawn from ergot: Ergotic acid, sphacelinic acid, and cornutin. Sphacelinic acid is the constituent of ergot which causes the well-known gangrene. The author gives a very interesting criticism of the different epidemics, and he points out the symptoms in them which correspond to the action of sphacelinic acid. He also points out certain dangers arising from its use, even in therapeutic doses, such as gangrene of the lungs, gangrene of the cutis, hyperplasia of the neuroglia of the spinal cord and brain, and tabetic symptoms. Cornutin is the name Kobert has given to the new alkaloid which he has discovered in ergot. The amount obtainable is so extremely small, that he had great difficulty in determining its chemical relations. The action of cornutin may be briefly described as convulsant—clonic and tonic spasms and convulsions exactly like those of epilepsy being induced. The action of cornutin and sphacelinic acid, respectively, explains the cause of the occurrence of the two forms of chronic ergot poisoning, namely, the convulsive and the gangrenous, both of which have been so often described in the accounts of the different epidemics in Europe. In conclusion, the author points out that most of the preparations of ergot at present in use contain chiefly ergotinic acid, which, as previously stated, has no action on the uterus.—*British Medical Journal*.

EXTRACTUM SECALIS CORNUTI.—Deutrel, of Reutlingen, has discovered a new preparation of ergot, which does not contain the objectionable principles like sclerotinic acid, ergotin, exbolin. It has been quite extensively used at Tübingen, where it is recommended as being superior in many respects to the older preparations. It is well adapted for subcutaneous use, since it does not cause unpleasant secondary symptoms. It makes a perfect solution in glycerine, remaining clear for months. It need only be given at half the dose, while the price is not higher than that of the official preparations.

A NEW MODE OF DRESSING WOUNDS.—From a foreign exchange we learn that at the Académie de Médecine, M. See spoke on a new mode of dressing wounds which would be permanent. When a wound is going to be sutured, he arrests the blood by catgut ligatures at first, and then dusts the parts with subnitrate of bismuth, finely powdered. When all oozing has ceased, he makes, if the wound is profound, deep sutures, and the drainage tube is made of red india rubber. More powdered bismuth is applied, and the whole covered with a phenicated pad, in the centre of which is slipped a sachet containing a certain quantity of corrosive sublimate. The tubes are withdrawn at the end of the third or fourth day, and the dressing removed in a fortnight or three weeks, when the cicatrix is fully formed.

AN OINTMENT FOR ITCH.—Prof. Hardy published the following formula in the *Union Médicale*: Naphthol, ten parts; vaseline, 100 parts. The powdered naphthol is to be dissolved in half its weight of ether. This solution is to be mixed with a portion of vaseline, and heated to 30° or 40° C., until the ether has been entirely evaporated, when the rest of the vaseline is to be added, and the mass carefully triturated. The homogeneous ointment thus obtained is to be kept from the excess of air. It may be applied to any stage of itch, and whether it is or is not complicated with other eruptions. The duration of the treatment varies from ten to fifteen days.

GLYCERINE AS A REMEDY FOR INDIGESTION.—The editor of the *Medical Index* has found the exhibition of glycerine to be attended with satisfactory results in two forms of indigestion particularly. First, in that form of irritative dyspepsia which is the common result of rapid eating and imperfect mastication. The usual symptom in such cases is distress coming on half an hour or an hour after meals. There is also, duodenal catarrh and dyspepsia, with, perhaps, slight jaundice and other symptoms, referable to and explained by the irritated mucous membrane of the stomach and duodenum. The indications in such cases are well-defined. The food must be prevented from undergoing mischievous chemical changes before it can be acted upon by the enfeebled digestive organs, and a remedy must be given which shall exert a local soothing effect upon the irritated mucous surface. Glycerine, theoretically, from its preserving and emollient properties, fulfils these indications, and in practice our contemporary has not been disappointed in its use. A somewhat similar condition to the above is met with among children shortly after birth, after a trial of feeding them solid food has been followed by colic and soothing syrup. In such cases the child is apt to have greenish discharges, occasionally speckled with blood. Glycerine will be found an admirable remedy in these cases. —*Therapeutic Gazette.*

VACCINE VIRUS EFFICACIOUS WITHOUT THE PRODUCTION OF CUTANEOUS MANIFESTATIONS.—The usual supposition is that vaccination has been non-effective if, after several days, the characteristic pustules do not appear. From the experience of the author of a paper in *Rév. Mens. des Mal. de l'É.*, it would appear that this is not always the case. The facts related by him, together with the circumstance that similar ones have been observed in the inoculation of sheep, lead to the belief that some people can acquire the protection afforded by vaccine without the customary eruption.

THE DANGERS IN CANNED GOODS.—The denial of General John P. Hawkins, recently published in this journal, that canned goods are poisonous, has called forth a counter-statement from Dr. S. Rosenburger, who asserts, in the *Medical and Surgical Reporter*, that he himself and several of his patients have been made sick in this manner. "The trouble," he says, "undoubtedly lies in the bad material used in the manufacture of the cans. The tin used, if tin at all, must necessarily be of the most inferior kind, on account of the very low price at which the goods are put on the market. The reputed tin is a combination of lead, antimony and tin, and probably some other equally poisonous conglomerations. There is no supposition about this. It is a known fact in the tin trade, and the stuff is sold cheap as such. Legislation is required to protect the public from this becoming a common, every-day occurrence of poisoning by canned goods, both vegetable and animal, as much so, if not more than to protect against adulterated food."

COCAINE HYDROCHLORATE IN ACUTE OTITIS CAUSING DEAFNESS FROM CORYZA.—According to Laurence Turnbull, this form of deafness is directly traceable to nasal, naso pharyngeal, or pharyngeal disease of the lining membrane. Plugging of the openings of the eustachian tubes, viewed from a peculiar mechanical standpoint, will certainly cause or aggravate deafness. Hence it is of the utmost importance that prompt and efficient means should be used in order to relieve the patient and ultimately cure the disease. The application of a four-per-cent solution of the hydrochlorate of cocaine to the nose will cause the swelling from acute coryza to disappear for hours, and if repeated two or three times will entirely relieve

the occlusion of the nostrils and check the discharge. The great advantage of this local anæsthetic is, that when necessary we are able to apply local remedies of a more potent character.

ERGOT IN CONSTIPATION.—Two cases of constipation, due to atony of the muscular wall of the intestines, are reported by Dr. Granzin, in the *Allgemeine Med. Zeitung*. They are caused by, or at least follow, the abuse of purgatives. Three doses of ten grains each were given at intervals of two hours, and were followed by a copious evacuation. A second stool occurred spontaneously the next day, and after the administration of ergot in small doses for a few days a definite cure was obtained.

A COLLEGE COURSE FOR NON-RESIDENTS.—From a communication in the *N. E. Medical Monthly*, April 5, 1885, we learn that the Illinois Wesleyan University, Bloomington, Ill., has prepared a course of studies for those who cannot go to college, and for professional men who are ambitious to avail themselves of the benefit of systematic study under university guidance, and desire their labor shall receive proper recognition by the granting of a degree. A generous range of electives is allowed to meet the wishes of persons pursuing different branches of science; about one-half the studies are elective; that is, about twenty are required, and you choose your other twenty out of about sixty. The fees are as follows: Matriculation, five dollars; examination, fifteen dollars; diploma, five dollars—only twenty-five dollars in all. The examinations are not unfair; there are no catch questions, but it is thorough. The degree must be a valuable one. Nearly all the candidates are professional men. Send to Illinois Wesleyan University, Bloomington, Ill., for announcement of non-resident course leading to degree Ph.B.

FERRUM PICRICUM.—This salt, in doses of from 1-50th to 1-100th part of a grain, causes a tendency to night perspirations; patient wakes up in a fright and finds herself in a perspiration. A tendency to neuralgia of the teeth going up to the temples exists, the throat and ears feel stuffy, and there is some singing in the ears.

It also causes a tendency to constipation and headache, the headache being markedly worse after meals. It causes, too, a pain along the urethra with a desire to urinate during the day, its enuresis being more painful than that of other preparations of iron, and besides, the pain extends along the entire urethra and is not confined, as with the phosphate of iron, to the neck of the bladder. Voice and respiration become feeble, hence the patient suffers from oppression of the chest going upstairs, and perspires more easily than usual.

These symptoms point to two conditions for which picroate of iron will be found to surpass other ferruginous salts; namely, indigestion, with symptoms of biliousness and tendency to headache and furred tongue, and phthisis pulmonum, with possibly such symptoms as night-sweats, oppressed breathing, and restless semi-delirious sleep. In bilious, dark haired persons, with whom iron usually disagrees, it will be found, should the symptoms indicate, of the greatest service.

Salicylate of iron (one to thirty-three solution) caused in 1-3d drop doses, a recurrence of hemorrhage from the lungs in a patient subject to this affection; and even in the third decimal dilution it had a like effect.—DR. R. T. COOPER, in *Monthly Hom. Review*.

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"A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the ONLY ACKNOWLEDGED RIGHT of an individual to the exercise and honors of his profession."—Code of Medical Ethics, Amer. Med. Ass., Art. IV., Sec. I.

Our practice is *not* "based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry."

NATURE'S PREVENTION AND CURE OF DISEASE.

SOME years ago we strongly advocated, in the columns of the *Medical Union*, the location through proper scientific observations, of sanitariums, in such places as would be best fitted to meet different conditions of the human system. These places might be located on the Atlantic or Pacific coast, among the hills of the interior, or on the elevated plateaus of our great mountain ranges. Meteorological tables give only a part of the information necessary to make a proper selection of locality, for the reason, as Jaccoud very justly says in his lectures on the "Curability of Phthisis," that two places having similar climates may have very different therapeutic value, not accounted for by the meteorological tables, solely on account of their topographical situation and the geology of the country. The impression made upon the organism by different climates are, to a certain extent, independent of the certain described phenomena which constitute the climatology of a region. With similar mineral waters, barometrical, hygrometric and anemological conditions, two places may be most dissimilar from each other in their effects upon the healthy person or the invalid. It is in vain to seek in atmospheric changes for the explanation of that special impression which the climate makes upon the affected organism—an impression which, in fact, is indefinable, and the cause of which cannot be ascertained except by the union of broad scientific and practical observations, and even with these helps the influence may be too subtle for our comprehension. Since the general acceptance

of the germ theory the attention has been more specially directed to the fact of the extension of disease by poison germs to the neglect of the quite as important and still more practical fact of the cause of their comparatively harmless effects in one case and of their fatal propagation and results in the other. Koch states that the repeated entrance into the healthy lungs of small numbers of the specific bacilli of tuberculosis will cause chronic phthisis and thinks he has found a solution to the cause of both chronic and acute phthisis in the introduction in larger or smaller numbers, of the tubercle bacilli into the lung. But even were this the fact, it leaves unsolved the problem of the different individual susceptibilities of disease. It does not explain why of two individuals living in the same climate, surrounded by the same influences, the one resists the invasion of disease and the other falls a speedy victim. If the germs enter alike into both individuals they find in one a soil exactly suitable to their propagation and in the other they are starved for lack of nutriment. The germ theory is, perhaps, the first link in the great chain of cause and effect, but it is only one small link, and gives us but a very slight insight into the great world of disease.

Phthisis is now not only better understood but more successfully treated than a generation ago. It is now looked upon as a possibly curable disease, but Koch's theory of tubercle bacilli has had but little to do with the advances made during the past two decades in prevention and treatment.

But there are diseases, notably cancer, which are still the opprobrium of our profession, in the presence of which we seem paralyzed. What do we know of the origin of cancer, and why and how a germ enters our organization and grows and develops there until it has crushed out a human life—a life which was, perhaps, full of beauty and sweetness and strength, and has passed by others which would seem to us more susceptible? Is there now, as with Israel in Egypt, a sign on the door post which guards its entrance from the angel of death? In searching for cause we should never forget that "there are more things in heaven and earth than are dreamed of in our philosophy," and that the cause is often so subtle that with our present mental training and spiritual insight, it is beyond our comprehension. The results are nevertheless apparent and must be accepted and

utilized, trusting to the future for a clearer insight into those laws of nature which are now to us a sealed book.

We come back, then, to the statement of Jaccoud, that scientific information, in the present standing of science, is not alone sufficient to give us an insight into Nature's cure and prevention of disease, but it must be coupled with practical observation of results in which some of the influences which led to them are at present a mystery.

It has long seemed to us that no more fruitful field of inquiry exists than the relation of climate to health and disease. By the term climate we mean the influences of sun and air and water and soil, or as Dr. Parkes concisely defines it, of the sum of the influences which are connected with the solar agencies, the soil, the air and the water of a place. May not the therapeutic value of a location depend upon the purity of its atmosphere and the presence in it of sufficient ozone to destroy any germs which may exist? Careful tests have shown us that during great epidemics, such as cholera, there is but little ozone in the atmosphere, while in periods of greatest health ozone is abundant. If, as Sir John Lubbock states, the smallest sphere of organic matter which can be distinctly defined by the microscope is about $\frac{1}{1000}$ of an inch in diameter, and a particle of this size would contain many millions of molecules, each, perhaps, endowed with organic life, we can see the necessity of an atmosphere so full of vitality that the germs may either be destroyed or the system fortified against their action.

Whatever location, then, is selected, pure air, rich with ozone, and water absolutely free from vegetable matter are absolutely essential. Water containing different mineral substances is sometimes necessary to counteract disease germs and supply deficiencies in the human organization, and it is in conformity with a geological law that the purest water and the most beneficial mineral springs gush out of the earth in locations where the surroundings are the most healthy and the atmosphere the most life-giving.

No country in the world contains the natural advantages for health resorts equal to our own. Locations in abundance can be found between the Atlantic and Pacific which would meet the wants of every variety of chronic and wasting disease. The meteorological registers of the various scientific institutions

and army posts could of course be utilized in selecting the most desirable locations for sanitariums, but the grouping together of the necessary facts must be in the hands of a thoroughly organized and equipped body of intelligent men working more for general good than individual profit. State aid could be evoked with public approval to carry into effect plans so undoubtedly conducive to the public good.

We had hoped the American Institute of Homœopathy, claiming, as it does, to be a leader in therapeutic progress, would have taken, at its last meeting, some active steps in a department which has been so much overlooked and which promises such magnificent results. But it is a question if this institution, as at present organized, has not so far outlived its usefulness as to make any advance outside of its one idea and its old rut extremely doubtful.

A society, has, however, been recently organized, "The American Climatological Association," which should include within its ranks thoughtful men of all schools. If conducted with the energy and zeal which the importance of the subject demands, there will be no lack of funds to carry on its work and scarcely a limit to its usefulness. It will stimulate every department of our profession by placing in our hands possibilities we do not now possess for the cure of patients and the eradication of the seeds of disease.

PROGRESS OF SCIENCE IN MEDICINE.

THE time is not long since the question whether medicine was a science or not, gave rise to acrimonious debate. So long as the ethics of the question was a subject of doubt, the claim that medicine was a science did not want for warm supporters from the best minds of the profession. Men who possessed the least knowledge of science were often the loudest in maintaining the verities of medical doctrines and the certainty of medical formulas. These men knew what disease was. Were not its hydra-headed forms catalogued in the nosologies and defined in the classics? They knew what a medicament was. Are not its manifold types tabulated in the *materia medicas* and their indications formulated from the medical experience of the ages? He who knew all these things, and could class a given pathological phenomenon at sight, after the classical manner of Cullen, Hosack, or Good, and place in skillful relation the ele-

ments of a prescription—the *basis, adjuvans, corrigens* and *constituens*, à la Thomson, Paris, or Dunglison, without doubt or hesitation, was accounted eminently scientific, and a master in his profession. With these verities fixed in his mind and memory, he could afford to look with indifference or contempt on controversies in respect of the claims of doctrines and theories which have disrupted the profession into parties and factions.

At the period of which we are writing—a period within the memory of the middle-aged practitioner—the science of morbid causes had been ignored by the average physician. Holding with the medical classics to the doctrine of the inscrutable nature of disease (*dis-ease*) he was content to associate it with either the solids or fluids of the body, according to which of these doctrines of pathology seemed to him the most plausible. At all events, disease was a substantial thing to deal with, an evil principle in possession of the organism, to be combated, suppressed, or exorcised by means which seemed most expedient or practicable. These means consisted in the old and still popular practice, mainly, of bleeding, burning, blistering, emesis, narcosis, diuresis, diaphoresis and purgation. In the new or homœopathic practice, a more fanciful theory of disease being entertained, namely, spiritual or dynamic disturbance of the organism, milder and more spiritual means of cure were resorted to. Hence, the introduction into the *materia medica* of infinitesimal remedies, and the idea of specific action against morbid disturbances, according to the law or method of *similia*. It seems strange to the student of medicine of to-day that any party adherent of either of these methods and partial conceptions of malady and remedy could reasonably claim to be scientific. Science means precision, certainty, when applied to a method or system. It is evident that there can be no certainty in the treatment of a malady the precise nature and causes—and therefore, meaning—of which are unknown, by means and methods the indications for which one is equally ignorant of.

Without over-estimating the present status of medicine, which, nevertheless, as a science, is vastly in advance of its status as a practice, we think it a source of gratulation that it is no longer encumbered by theories and fictions which could have no other effect but to degrade it in the estimation of

intelligent men. Physiology has already thrown much light on the processes of organic nature and put to flight the myths of vitality and disease, as entities, in the normal and abnormal organism. The light which it throws on its sister science, pathology, is important in determining the nature and meaning of the phenomena known as malady, which are due to modifications of the normal activity of the organism, consequent on morbid causes, or an abnormal environment. From this point of view, that which is known as disease is not an evil, *per se*, which we are so prone to regard it, but an action in accordance with the laws of the unconscious, for beneficent intent and purpose, namely, the preservation and conservation of the individual genus of the organism. This is the scientific doctrine of malady which it behooves every man to accept who has any respect for science or philosophy.

We cannot stop to point out in this place the bearings which this modern conception of the *rationale* of malady has on the science of morbid causes, except to say that the latter is one of its legitimate sequences; that its development (*etiology*) is entirely modern, and that it wholly supersedes the necessity of the conception of special providences in the morbid phenomena of life. It is in therapeutics, rather, that the new doctrine of malady has bearings to which we would briefly advert. Nature, or the unconscious powers of the organism is invested by it with supreme authority in determining the course of malady, healing wounds and repairing broken and bruised structures. Not that she cannot be aided in these operations by art, but that art is supplementary and subservient to her, composing or subversive, according as it is judicious or otherwise. If we are not mistaken this scientific conception of disease, while setting proper limitations to every method of therapeutics, will define the sphere and scope of each, and thus unify and harmonize the influence of all in the art medical.

FIGHTING CHOLERA BY INOCULATION.

WE learn from a Madrid telegram that the Spanish government has granted permission to physicians to inoculate people with cholera virus.

Dr. Jaime Ferran, the discoverer of the process, is stated to have operated, up to the present time, on

8,000 persons in the province of Valencia alone. Two well-known Madrid doctors, Señors Moreno and Tolsa, who went to study Dr. Ferran's discovery, were inoculated by him. Four hours afterward they felt all the symptoms of cholera—coldness, cramps, diarrhoea, fever, and delirium—but after sixteen hours they were all right again. At the Alcira Hospital all the inmates were inoculated by Dr. Ferran excepting two, who refused to submit to the operation. Cholera attacked these two and they died of it, while all the others were safe. The same thing occurred elsewhere. Delegations from all parts of the country are going to study the alleged discovery, and the Cortes has voted a sum to enable Dr. Ferran to prosecute his experiments, as he is poor.

This possible successor of Jenner is said to be only 33 years old. Born in Tarragona, he studied medicine in Tortosa, and took his degree at Barcelona.

He claims to have been led to his discovery by following the cholera microbe through its various stages of development and transformation until he detected a spore (the *peronospora Ferrani*), which, in his belief, contains the real virus of cholera. It was with specimens of this organism that he made his inoculative substance.

Thus far, what has been demonstrated appears to be simply the fact that the process results in a modified form of cholera. Judging, however, from the latest news relative to the progress of the malady in Spain, it seems certain that the actual value of Dr. Ferran's theory will soon be put to the test. If, when the plague has spent its force, it shall be ascertained that, of the many thousands whom he has inoculated in a single province, not one, or but a very small percentage, has contracted the disease—although all of them were equally exposed with the rest of the community—the utility of his procedure might be regarded as established—*so far as single visitations were concerned*. But since cholera, according to the general belief, may be taken an indefinite number of times, it would seem that inoculation cannot set up any protective changes in the system, as vaccination does in the case of small-pox. The process could only act as a preventive once, and would have to be repeated with every fresh appearance of the epidemic. This objection, while, of course, not altogether a fatal one, may suffice to take

inoculation out of the category of practical resources against the disease.

To determine finally whether the artificial production of cholera affords a permanent or only a temporary protection, would evidently require a long time and an extended series of carefully-conducted experiments. Meanwhile, whatever enthusiastic reports may be wafted to our ears, it will be unsafe to rely implicitly upon the new process.

SECRETARY STANTON AND STIBIUM.

THOSE familiar with the practice of the late Dr. John F. Gray remember his partiality for stibium as a remedial agent. The *New York Tribune* narrates an interesting reminiscence of the great War Secretary, in which Dr. Gray's famous prescription plays an important part:

"General Grant's reference in his biography to a meeting with Edwin M. Stanton, at Louisville, when the latter had so severe a cold that the General thought he would die, has called out the sequel of Grant's story of the illness. It was told by ex-Senator Edward Learned, of Massachusetts, who was one of the principal figures in it. When Stanton left Louisville he went to Jeffersonville on his way to Indianapolis. He was met there by Mr. Learned, who was President of the Ohio and Mississippi road, and had come there to see about the transportation of troops. A car was set aside for the Secretary of War. It had been used by troops and was somewhat filthy. The hose was turned on to its floors and it underwent a thorough scrubbing. In the big stoves at either end huge fires were built. It was bitter cold weather, and the car was a long time getting a comfortable atmosphere. Mr. Stanton, General Anson Stager, since dead, and Mr. and Mrs. Learned occupied the car. Mr. Learned said that he never saw a man traveling in worse condition than Stanton, who had a congestion that was rapidly closing in on him with a death grip. He went over and said to him: 'Mr. Secretary, I presume, as the head of the War Department and chief of its allopathic medical branch, you would not feel at liberty to accept any relief outside?' 'I don't understand,' said Stanton. 'Well, I've been a homœopathist for twenty years, and I know that you are a sick man. If you will permit me, I think my wife has her package of medicines along, and that I can prescribe for your relief.' 'What would you give me?' 'I think you should have stibium.' 'What is that?' 'The first preparation of tartar emetic.' Then the Senator told the story of old Dr. Gray, who frequently

prescribed stibium, and who had once said that he expected to have inscribed on his tombstone the epitaph, 'John F. Gray. Stibium.' Stanton said: 'I don't know about stibium, but I think tartar emetic will do me good.' Mr. Learned gave him doses every ten minutes, finally lengthening the periods to half an hour. At Seymour, Mr. Stanton was much relieved, but begged Mr. Learned and his wife to go on to Indianapolis. Just before reaching that city he got a batch of telegrams. Among them was one which he told the Senator required his presence in Washington as soon as he could get there. Mr. Learned insisted that he would endanger his life by attempting the trip. 'Human life is nothing in times like these,' was Stanton's response. He then asked for the bottle of stibium and declared his intention of going on to Washington. The bottle was given to General Stager, with explicit instructions about using it, on Mr. Stanton's promise that he would obey orders. The periods of the doses were to be gradually lengthened to two hours, unless the congestion should grow worse, when they were to be shortened. Stanton went on to Washington under this treatment and recovered. Months afterward he told Mr. Learned that he considered himself indebted to Mrs. Learned's homœopathic medicine chest for his life."

ON THE TREATMENT OF THE INSANE.

THE importance of this beneficent work cannot be over-estimated. Its success or failure may affect almost every family in the land. It is a sad and solemn fact that in nearly every relationship of civilized life traces of mental disturbance or mental failure may be found. Such being the case, it should be the aim of the people to discover and adopt those methods for the treatment of insanity which are most signally and positively successful. In making such discoveries comparisons must be instituted. Comparisons may be "odious," but they are nevertheless important and beneficial.

We shall here present the comparative results attained in the various asylums for the acute insane, in this State, for the years 1883 and 1884. We do this for the sole purpose of calling attention to the (thus far) most successful methods, and of promoting the universal adoption of the best means for treating the insane which have, to the present time, been discovered. During the year 1883, at the old school asylums, located at Utica, Poughkeepsie and

Buffalo, the percentage of recoveries on admissions was 25.37; the percentage of deaths on the whole number treated was 6.49.

At the new school asylum at Middletown, the percentage of recoveries for that year was 40.58; while the death rate was 4.39. During the year 1884 the percentage of recoveries at the former asylums was 25.58; the percentage of deaths was 6.76. At the latter asylum the percentage of recoveries was 41.71; the percentage of deaths was 4.96.

The question naturally arises: "What are the reasons for these wide differences in the general results attained?"

The general laws governing the admission of patients to these various institutions are the same throughout the State. There can be but slight variations in climatic influences. The patients themselves must be similar in their tendencies, conditions and nationalities. The sanitary and hygienic surroundings cannot greatly vary. The quality of the food afforded must be much the same. So we must look beyond these things for the reasons of success at Middletown. May there not be something of importance in the absolute avoidance of all hypnotics and narcotics in the treatment of the insane at the Middletown asylum? And does not the success of this institution depend, to a marked extent, upon a careful application of curative remedies according to that "law of similars" which is as old as Hippocrates and as modern as Hahnemann?

Beyond the avoidance of narcotic drugs, and the use in their stead of mild medication, we may safely place the personality of those who have the insane in charge. Upon them depends the efficacious application of that mental medication which is as marvellous as it is potent in the accomplishment of good.

To those who in self-forgetfulness devote their lives and best energies to the cure and relief of the insane, and who, by constant association with "minds diseased," expose themselves to dangers as great as those who minister to the victims of yellow fever, cholera or plague, we owe an increasing and undying debt of gratitude.

That asylum is, in our opinion, most successful in which every want or necessity of the insane (moral, medical and sanitary) is personally attended to by a faithful, energetic, and intelligent medical staff.

THE VAGINAL DOUCHE IN NORMAL CHILDBED.

DR. Z. B. ADAMS, in a paper read before the Suffolk District (Mass.) Medical Society (*Obstetric Gazette*, March, 1885), thus sums up his objections to the antiseptic douche in midwifery: "It is artificial; it is meddlesome; it is of doubtful utility, and it may be hurtful and even fatal." He refers to the annoyance which, as a rural practitioner, he has experienced on finding that city nurses require watching in order to prevent the indiscriminate and unauthorized use of the vaginal douche during the parturient week. He opposed this custom on theoretical grounds, because he believed, with Dr. Ernest Palmer, of Brooklyn, that "normal parturition is always physiological," and that, therefore, the practice of douching the vagina in childbed is no more defensible than would be the practice of giving antiseptic clysters to prevent infection from fecal matter; it being well known that septicæmia from wounds or fissures of the anus is one of the rarest of accidents. Moreover, there is high authority for the opinion that the normal lochia, instead of resembling the suppuration from a healing stump, to which it is compared by the "advanced obstetricians," are exactly analogous to the menstrual fluid—so that we might as well introduce the practice of douching the vagina during the catamenia in every female, as keep washing it out after natural delivery.

Again, looking at the question from a purely clinical standpoint, we find that the employment of the vaginal douche does not prevent the occurrence or the spread of infectious diseases in those institutions where it is in constant use; still less, therefore, can it be of any possible benefit in private practice.

Pathology, also, gives no support to the use of the vaginal douche. The record of autopsies disclose the fact—admitted by the best authorities—that the micro-organisms which give origin to purulent infection, puerperal fever and septicæmia, in many cases find their entrance into the body of the parturient woman by other avenues than the generative tract.

But douching the vagina is not to be regarded as simply useless. Substituting an artificial for a natural problem, it is meddlesome, and, therefore, it may be hurtful midwifery, for even a competent and faithful nurse cannot always avoid the possibility of an unhappy accident in using the syringe. If the work be done thoroughly, some force must be given to the current of water, which, carrying with it effete and decomposing matter found in the vagina, may at any time enter the uterine cavity through the patulous os, producing pain and spasm. Or, as in a lamentable case cited by the reader, air may be driven into the veins and heart, causing the death of a perfectly healthy subject within a few hours. In such an event, it is cowardly and idle to lay the blame on the nurse, instead of where it properly belongs, upon the practice itself—that practice of which Dr. T. Gaillard Thomas says "that it can do no harm, it is quite evident."

It is doubtless true that fatal results are exceedingly rare from this treatment, but we do not hesitate to reject chloroform as an anæsthetic upon no better grounds than this.

The discussion which followed the reading of the paper elicited a decided conflict of opinion, "bordering," as was remarked by one of the participants, "upon asperity." A majority of the debaters were in agreement with Dr. Adams as regarded the routine employment of the vaginal douche after normal labor. Those who advocated this practice conceded that the nurse ought always to be cautioned against the use of force in making the injections. They laid considerable stress upon the good results alleged to have been obtained in certain hospitals from the regular douching of obstetric patients. *Per contra*, Dr. Morton Prince related his experi-

ence "at the Temporary Home, where only the most unfavorable cases were received," as showing that such treatment could hardly be considered a necessity, however, it might add to the comfort of the woman. A passage was read from the last report of Dr. A. V. Macan, Master of the Rotunda Hospital in Dublin (whose diminished death-rate had been cited as an illustration of the harmless and beneficent effects of the vaginal douche), which made it clear that this gentleman is opposed to the use of any prophylactic antiseptic injections in the puerperal state, and never allows them to be employed, either in hospital or in private practice.

Dr. Chas. P. Putnam said that "in the country, especially if sparsely settled, putrefaction takes place slowly when compared with a large city, where any material like blood putrefies with great rapidity, so that one can hardly say that any childbirth takes place under normal conditions. Douching in childbed might be compared with any of the so-called improvements of modern civilization. The question is not whether it is dangerous, but whether it is less dangerous than the neglect of it."

Most of the speakers, however, coincided with Drs. Mundé and Garrigues, of New York, in advising that "so long as the lochia are not offensive, the douche had better be let alone."

AMATEUR DOCTORS.—Apropos of this subject, the *London Globe* remarks: "It is curious, when one comes to think of it, that people should be so exceedingly ready to set about the remedy of anything amiss in the system of either themselves or those about them. If a man's kitchen clock wheezes and whirs a little, and presently begins to betray a difficulty in getting along, he will admit at once that he does not know what is the matter with the thing, and will have the clockman ordered in to attend to it. If his watch gets a little slow, and does not seem amenable to the regulator, he will not even run the risk of touching it here and there with a little sweet oil; or if his piano gets out of tune in only a note or two, he does not dream of investing three and sixpence in a tuning hammer and putting it in order himself. He does not understand the business, he will tell you, and might do more harm than good. But if his own internal mechanism begins to wheeze a little and to show symptoms of running down, if he himself feels somehow a little out of tune, it is very likely indeed that he will be quite confident that he knows all about it, and will forthwith resort to the family medicine chest or the nearest druggist. It may be argued that he probably knows more about his own interior than he does of the inside of a clock or a watch. On the other hand, he may have been studying his own constitution for thirty, forty or fifty years. Every man, it has been said, is a fool or a physician at forty, and there is just enough truth in the saying to make it plausible. But then the remarkable thing is that the amateur doctor is just as ready to prescribe for other people's constitutions as he is for his own. Give him ever so slight a hint of your symptoms, and he will at once prescribe for you. He knows, of course, that your mechanism is ten thousand times more intricate and delicate than that of any clock or watch, and it might occur to him, one would think, that in so intricate a machine similar symptoms might possibly arise from very different causes. Nothing of the sort occurs, however. 'Pains in your chest, eh? Ah, indigestion, my dear fellow. I used to have that sort of thing terribly. Try a box of Quack's pills. The finest thing in the world for indigestion.'"

—Dr. Keyes gives iodide of potassium in milk. Ten grains or more, in milk, does not offend the stomach, and is not disagreeable to the taste.

BIBLIOGRAPHICAL.

DISEASES OF THE EAR AND THEIR HOMŒOPATHIC TREATMENT. By C. F. Sterling, M.D., New York. A. L. Chaterton Publishing Co. 1885.

Dr. Sterling says this little work is the outgrowth of a want felt by himself, when just commencing the practice of medicine, for a small, handy treatise on the examination and diagnosis of the more common diseases of the ear and their homœopathic treatment. It is not designed to take the place of the more elaborate works, but simply to present practical directions and concise statements without theory. The design of the author is admirably carried out in his thoughtful and carefully written treatise.

THE May issue of "Wood's Library of Standard Medical Authors" is a treatise on Asiatic cholera, edited by E. C. Wendt, M.D., in association with Drs. John C. Peters, Ely McClellan, U. S. A.; John B. Hamilton, Surgeon-General U. S. Marine Hospital Service; and George M. Sternberg, U. S. A. Dr. Peters has given a very complete account of the disease as observed in the different American epidemics. This with the carefully prepared description of the disease as it affected the army and navy, illustrated by maps showing its lines of travel, will be of particular interest and value to the American reader. The remainder of the work has been very carefully prepared, giving evidence of extensive research and a thorough familiarity with the literature of the subject.

THE SECOND VOLUME OF THE SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by William Pepper, M.D., LL.D., and published by Lea Brothers & Co., Philadelphia.

This work fully maintains the high standard of excellence shown in the first volume. The discussion of general diseases is continued and followed by those of the digestive system, which are completed in this volume. There are contributions from twenty-two physicians. The general history, pathology and symptoms of all the subjects discussed are given with great clearness and accuracy, and the therapeutics is of a much higher order than is generally found in works of our old school brethren.

HAY FEVER AND ITS SUCCESSFUL TREATMENT by Superficial Organic Alteration of the Nasal Mucous Membrane. An Essay read before the Philadelphia Laryngological Society, April 24, 1885. By Charles E. Sajous, M.D., Instructor of Rhinology and Laryngology in the Post Graduate and Spring Courses, Jefferson Medical College; President of the Philadelphia Laryngological Society; Fellow of the American Laryngological Association; Corresponding member of the Royal Society of Belgium and of the Medical Society of Warsaw (Russia), etc., etc. Illustrated with thirteen wood engravings. Philadelphia: F. A. Davis, Att'y, Publisher. 1885. Pp. 104, 12mo.

The scope of this timely little book can best be given our readers by briefly summarizing the conclusions to be drawn from it.

First. That through heredity or through derangement of nervous system the nerve centres become abnormally sensitive.

Second. That, as a result of local disease, the nasal nerves become hyperæsthetic and exceedingly sensitive to certain elements in the atmosphere. *Third.* That by cauterizing, by means of the galvano-cautery or by acids, the hyperæsthetic membrane will be so changed that the paroxysm will not

occur. *Fourth.* The areas of hyperæsthesia are divided into posterior, middle and anterior, and that the posterior is responsible for reflex asthma and the anterior for head symptoms.

The work is intelligently constructed and shows that the author has had experience in the treatment of the disease which is the title of his book.

North American Review.—This most excellent magazine has just completed its seventieth year and shows no signs of senility; on the contrary, the July number now before us seems more vigorous than ever.

The Century.—As we presume our readers desire to keep up with the literary times, as well as the medical, we can do our part in no better way than to keep on file such sterling periodicals as the *Century Magazine*—which has no superior—and read them.

OBITUARY.

DIED.—On Friday, June 19, 1885, at 465 Fifth Avenue, MRS. MARTHA PARKER HILLS, wife of Alfred K. Hills, M.D.

Mrs. Hills was born in Providence, R. I., and educated in Boston, Mass., and possessed many of the estimable qualities of mind and heart which are so often found among the descendants of New England ancestry. To this excellent home training she added, from year to year, culture, by extensive reading and devotion to art, for which she had not only great love but natural genius.

Mature years consequently found her the loving and dutiful daughter, whose tender care did much to cheer and sustain the aged father and mother through their declining years; the faithful and true wife; the firm friend; and a most efficient worker in the broad field of charity.

Her protracted and painful illness was borne with characteristic patience and self-renunciation. S. L. S. G.

CORRESPONDENCE.

TO RICHARD HUGHES, M.D., AND J. P. DAKE, M.D., Editors of "A Cyclopædia of Drug Pathogenesis. Issued under the auspices of the British Homœopathic Society and the American Institute of Homœopathy."

Having received a complimentary copy of a specimen of the projected work—the proud joint-effort of the two great English-speaking nations—and knowing that the ancestors of Dr. Hughes were Welsh, I beg leave to offer, as an appropriate motto for the Cyclopædia the following quatrain—termed an *englyn* in Welsh—which was written by a Welsh poet, Rhys Cain, in 1580. This dead bard must have been inspired by the spirit of prophecy, as his *englyn* will testify, for if he had known of the coming of the Cyclopædia he could not have written a more appropriate motto for it.

Having unadulterated Welsh blood in my own veins—plus some Michigan malaria—I trust that I may be pardoned for urging you to accept this motto. I would also add, as a make-weight, that Greek and Latin mottoes have become too common, while Welsh, the original language in Great Britain, offers, in this instance, both novelty and an aptness that will be quickly recognized by the scholar who is conversant with that ancient tongue:

"Ysgerbwd mewn cwd, nid min call—a'i mawl,
Llyfr moliant bardd cibddall,
Anhawdd yw ei iawn ddeall,
Fe wna i ddyn a fo'n ddall."

Sincerely yours,

SAM'L A. JONES.

If no member of the British Homœopathic Society, or of the American Institute, volunteers a translation, I will furnish one in a subsequent issue of this journal.

NEUROLOGICAL NOTES.

To the Editors of the N. Y. Medical Times :

THE April number of the *Alienist and Neurologist* for the present year comes to us freighted with a variety of good things. A *Case of Demonomania with Periodic Hystero-Epileptic Accesses*, by Dr. Angelo Passerini, gives a most interesting description of what is now a very exceptional affection; and furnishes additional proof of the great influence exerted by delirious ideas over the various nervous functions. It is a case presenting the characteristics of *melancholia demonomania*, in which, according to Kraft-Ebing, neuralgias, paralgias and hysteric convulsions are frequent, and which develop also the accesses of *true raptus*; and in this special case the delirious ideas rose at fixed times to the intensity of what Charcot calls the *hysteria major*, or grand hysteria; and then, with what seemed to be "a scrupulous regularity, the convulsive accesses determined by these ideas burst forth."

The second instalment of M. Le Dr. M. V. Magnan's *Clinical Lectures on Dipsomania*, delivered at the Asylum of St. Anne; and Dr. T. D. Crothers' *Clinical Studies of the Incipient Stages of Inebriety* are valuable additions to the literature of this department of medical research; and Dr. Spitzka's *Posterior Commissure of the Brain*, as well as Prof. Salomi Pace's *Clinical and Anatomico-Pathological Contribution to the Localization of the Psycho-Visive Centre*, are indirectly indications of the tendency of modern studies towards a deeper and more scientific investigation of brain and nerve function than has hitherto obtained. And *Fools and their Folly* is a vigorous and trenchant protest, by Dr. Henry Howard, of Montreal, Canada, against popular prejudices in regard to insane asylums, as illustrated in some recent Canadian medico-legal cases.

Through the whole number, the ability of the editor of the *Alienist and Neurologist*, Dr. C. H. Hughes, of St. Louis, Mo., makes itself distinctly felt, and his Editorial on the *Neuropathic Conditions of Cancerous Degeneration* is peculiarly timely, when the illness of our great soldier has called eminent attention to this subject. Dr. Hughes believes that "the neuropathic and psychopathic conditions of depression have much to do with its inception and progress, in addition to the locally excitant cause or causes, and that its several factors and neurotherapy are worthy of consideration." Cancer "belongs to a period of life at which the tonic of the nervous system is on the wane in many organisms, when the trophic, nutritive and assimilative functions are more liable to depression than in more vigorous periods. It is often quite rapidly developed after sudden and profound shocks to the nervous system."

He calls attention to its well known metastatic peculiarities; and to the fact that the only real benefit derivable from treatment (aside from that of a merely palliative nature) comes "from plans of treatment addressed to the restoration of general nerve tonicity and consequent nerve tranquillity and trophic and resisting power"—and that "the amelioration of symptoms and somewhat retarded growth even after removal by the harsher methods and the various 'quack cures' so called, result from the neural buoyancy of hope inspired."

"History gives us more confirmation of the neuropathic causation and diathetic relationships of cancer than the present space permits us to record. Napoleon had epilepsy, and when his fortunes fell at Waterloo and his political fate was finally sealed at St. Helena, added, perhaps to the wearing influence of remorse over the wrong he had done Josephine, he fell a victim to cancer. The cares and worries

and wounds of State, and the cancer which followed, killed Lord Bolingbroke. It is not certain whether Plunkett's boluses hastened or retarded his demise more than Pope's satire.

"Our own imperious Benton succumbed to cancer while working on his 'Thirty Years' View,' after an unexpected political defeat, following more than thirty years of dictatorial political life. If his malady had not been cancer, it had probably been a brain trouble. The gifted and studious Dr. E. H. Clarke, of Boston, fell a victim to this disease from over nerve-strain, and had not completed his book on 'Visions,' when he died.

"And now, though neither last nor least, we have the hero of Appomattox suffering from a shock to mind and nervous system greater than any possible political or military reverse of fortune could have made, and ending in this fatal form of tissue degeneracy. At this juncture, too, the fate of the ex-president's brother Orville, he having died of paresis, a fatal form of neuropathic degeneracy, cannot be overlooked. Who can doubt, if the ex-president dies, that the blow that Ward has given him will have contributed as much to his death as Guiteau's fatal bullet did to the death of the lamented Garfield? And who can doubt, if Grant survives, that the essential factor to his recovery, aided of course by the judicious management and skillful treatment of his physicians, has been furnished in the reactionary power of a world's sympathy and a Nation's attested confidence, notwithstanding the unforeseen blow and cloud under which the honest and high-minded old hero had fallen?

"There are potent agencies that

"Minister to mind diseases,
Raze out the written troubles of the brain," etc.

"And of these potent influences no

"Sweet oblivious antidote"

is more effective to counteract painful psychical depression and its neuropathic effects than true sympathy and charity. These the ex-president has received 'in his hour of need,' and the timely conviction of Fish vindicates the fallen hero's wounded honor.

"Tobacco is a contributing cause of cancer, just as it is of amaurosis, which has many other causes, not through nicotine empoisonment specially vitiating the blood, but through the repeated assaults made upon the nervous system, more or less resisted when environments are satisfactory and invigorating, but resistless when they are greatly depressing and the cancerous diathesis is latent in the system. The same form of cancer attacks those who do not, as well as those who do, use tobacco.

"The neuropathic conditions, associate and predetermining, of cancer, therefore, ought not to be overlooked, and treatment should be addressed especially to them as well as to the local manifestation of disease. That the disease is not all or essentially local, its ready metastasis after extirpation shows, and the general blood contamination theory has now no intelligent advocate. In the dim light that shines in the confessed darkness of this subject, electrizations and a judicious neurotherapy offer the best hope of retarding the progress, and of preventing the development of cancerous degeneration, and if we would stay it or cure it (if cure be possible) we cannot ignore them. * *

"In view of what has been done in other diseases by conjoint electrization and vigorous neurotherapy, the hope of mastering the cancerous diathesis and of averting the culmination in local manifestation, if not sometimes curing it would seem to lie in this direction, never ignoring, of course, the best method of unirritating local treatment. * * *

"We are nearer the cure of cancer than we were one hundred years ago, because we have a better constitutional therapy for all diseases. We may not yet eradicate a diathesis, at least in one generation, but we know much better than we used to, how to suppress and retard and prevent its active manifestations.

"Cancer is probably as amenable to treatment as any other diathetic condition, if we recognize it as such and go about its treatment in the same confident and vigorous manner; and it will probably be found to be as curable as scrofula or phthisis, syphilis or organic insanity; but the hope of conquering it lies in recognizing its neuropathic relations and in an early and persistent, vigorous and confident effort to improve them. The cancerous cachectic must be more or less made over like the epileptic and the hysteric, and let us not, in our search after new pastes, lose sight of the old diathesis and its neuropathic factors.

"*The law of resistance to cancerous invasion is in the conservation of energy.* When Pasteur successfully inoculated birds with the bacillus anthracis, after Koch, the discoverer of the cause of splenic fever, had failed, he lowered their vitality by chilling them, and some of them, when the fever was at its height, were brought up again to the point of successful resistance by exalting their temperature. The bacilli anthracis were destroyed and the animals lived. More animals, too, which were inoculated with diluted virus, had the power of resistance excited, but not overwhelmed in them, and they secured immunity through a developed power of resistance (in a responsive nervous mechanism probably,) rather than through destruction of some imaginary favorable soil in the organism, as Tyndall, reviving an old doctrine, conjectures."

H. R. S.

OUR INSTITUTE LETTER.*

To the Editors of the *N. Y. Medical Times*:

The thirty-eighth annual session of the American Institute of Homoeopathy was held in St. Louis, Mo., beginning June 2. St. Louis, true to her well-known reputation, gave us a warm reception in sending the mercury up among the nineties.

The delegation in attendance was not as large as was hoped for, nor were the number of applications for membership as many as the large section visited should have brought forth.

The death roll numbered twenty-one, including eight seniors. The Institute was welcomed by G. S. Walker, M.D., of St. Louis, in an eloquent and appropriate address.

The President replied in a few well-chosen words, and then proceeded to deliver the annual address. The address, which was on the general subject of "Some Therapeutic Theories, True or False," was listened to with the attention it deserved, as it did credit to the writer and was worthy of the occasion. The prompt and firm rulings of the President and his holding the Institute strictly to its own rules, aided very much in making the meeting a success.

Meeting in a city noted for its heat, and near its busiest streets, the "Scylla of heat and the Charybdis of noise" were hard to choose between. Still the dearth of attractions outside drove the members to the meetings, and many of the reports were freely discussed.

The suggestion of your correspondent, in his letter of last year, that a single paper would bring out a better discussion than a report containing several papers, no matter what might be their intrinsic value, was corroborated by the report of the Bureau of Surgery. The paper was read by Dr. Talbot, in twenty minutes, while the discussion was kept up for over one hour.

* [So far as we can judge from the reports before us, the meeting was a failure.—Eds.]

A noted feature was the spirited and profitable session of Friday morning, which is, as a rule, almost time thrown away.

The familiar face of Father McManus was greatly missed, and his demise was touchingly alluded to by several members during the memorial service.

The members present seemed to come from many different and distant points, rather than from any particular centre.

The Southern Institute was represented by its President, C. E. Fisher, M.D., and others, and its purposes and aims heartily endorsed by the national body.

The election of officers resulted as follows:

President—O. S. Runnels, M.D., Indianapolis, Ind.

Vice-President—A. I. Sawyer, M.D., Monroe, Mich.

Treasurer—E. M. Kellogg, M.D., New York City.

General Secretary—J. C. Burgher, M.D., Pittsburgh, Pa.

Provisional Secretary—T. M. Strong, M.D., Ward's Island, New York.

The twentieth successive election of Dr. Kellogg was made the occasion, by the Institute, to testify to his persevering, and finally successful, efforts to place the finances of the Institute on a firm basis.

The chairmen and members of the bureaus and committees are as follows:

Ophthalmology, etc.—Drs. Wanstal, Houghton, Campbell, Lewis, Buffum, Fuller, French, Bellows, Boynton, Woodvine.

Organization, etc.—Drs. T. F. Smith, Talbot, Fisher and Leonard.

Gynecology—Drs. L. A. Phillips, Hedges.

Clinical Medicine—Drs. J. S. Mitchell, Dowling, Couch, Dickinson, St. Clair Smith, Edmonds, Hawkes, Clarke (H. B.).

Obstetrics—Drs. Peck, Julia H. Smith, Fisher, Leavitt, Higbee, Chapman, Gause, Kenyon, Elder, Ordway.

Microscopy—Drs. A. R. Wright, Cowl, Wesselhaeft, Haupt, Mitchell, Buck, Lewis, Morgan, Bailey.

Materia Medica—Drs. Cowperthwaite, Farrington, Lillenthal, Camp, Dake (C.), Hawkes, Allen (H. C.).

Sanitary Science—Drs. Grosvenor, Beckwith, Beebe, Warren (Anna M.), Jones, Tooker, Baker, Dudley, Waters.

Pharmacy—Drs. Sherman, Allen (T. F.), Butler, Cowperthwaite, Dudley, Wesselhaeft, Hawkes.

Anatomy—Drs. Owens, Owens (Jr.), Pomeroy, Bottsford.

Surgery—Drs. Talbot, Helmuth, Hall, James (J. E.), Obetz, Parsons, Walton, McClelland, Jackson, Terry.

Pedology—Drs. Tooker, Crank, Deschere, Chapman, Sanders, Enos, Harrison, Bedell, Whipple, Lawton, Fisher (Anna).

Medical Literature—Dr. F. H. Orme.

Foreign Correspondence—Dr. T. M. Strong.

Medical Education—Dr. C. E. Walton.

Medical Legislation—Dr. A. I. Sawyer.

Local Committee—Drs. Paine, Coburn, Pearsall, Allen (T. F.), Kellogg.

The local committee of St. Louis did all in their power to make the stay of the members pleasant and profitable.

The Institute adjourned to meet at Saratoga, N. Y., where the "profession of the State of New York will entertain."

T. M. S.

OUR LONDON LETTER

To the Editors of the *N. Y. Medical Times*:

THE General Medical Council have again met, and if any argument were needed to prove the necessity for new medical legislation, the proceedings of this august body would supply all that might be required. A proposal was made for lengthening the term of medical study from four years to five. It was suggested that five years

should be the minimum except to such as come ready to have an examination in some of the natural sciences. Three members of the Council opposed this strongly in speech and argument—and voted for it. The reason why they voted for it was that they felt sure the licensing body would take no notice of it, and it was only a "recommendation" of the Council. They were quite right about the licensing bodies; but it was a pretty clear confession that the Council wants "reorganizing."

Perhaps, when the British Parliament have settled Russia, Egypt, France, Bismarck and the dynamiters, they will have a little time to bestow on medical education, and the passage of the lunacy bill through the House of Lords may be taken as a sign that the doctors—and their patients—are not forgotten. The new lunacy bill will greatly discourage the establishment of private asylums; though it will not touch those already in existence. It will also make the order for the confinement of a lunatic dependent on magisterial decision. A lunatic, or a supposed lunatic, will be put upon his trial, and will only be deprived of his liberty on sworn evidence, as in criminal cases, also the order for commitment will be for a limited time, after which a new investigation will take place, and the patient be released if evidence of insanity is not satisfactory to the court under which he is committed.

Mrs. Weldon must be a little comforted in her imprisonment with the sequel to the action she brought against Dr. Jules Winslow. It seems that Dr. Winslow was trustee under his father of the two asylums, which belong jointly to his brother and sisters and himself. The two asylums (one for gentlemen and one for ladies) were committed to his management, for which he was of course paid. Since Mrs. Weldon's action, the joint proprietors became dissatisfied with his management, and deprived him of his charge, and another gentleman was nominated. Dr. Winslow then tried to withdraw patients from the asylums, and an interim injunction has been obtained preventing him doing so. Dr. Jules Winslow must be very sorry he ever diagnosed Mrs. Weldon to be a lunatic.

The piggyishness of science, and especially of German science, is beautifully illustrated by the fervent hope expressed in the German medical press that "the weight of Dr. Koch's influence may prevail to preserve Europe from the ravages of cholera." There is an indescribable charm about this. The unfortunate bacillus is as much discussed as ever; and beyond Koch's advice to the people of Marseilles not to water their streets, I don't know that he has made any positive suggestion. He is, as he says, a "discoverer"—he has nothing to do with the *treatment* of disease. In the meantime the news comes that the Spanish government have decided to "stop the ravages" of Dr. Ferran, the crack-brained youth who has been persuading "ladies of the aristocracy, priests and even doctors," to let him "vaccinate" them with the "attenuable" microbe of cholera. He appears to have given his patients sundry gripes, to the great satisfaction of himself and them.

Yours fraternally, JOHN H. CLARKE, M.D.
15 St. George's Terrace,
Gloucester Road, S.W., June, 1885.

AMERICAN MEDICINAL PLANTS.*

To the Editors of the N. Y. Medical Times:

A COPY of the above has lain on our desk a long while, unnoticed. It was our whim to let the critics, large and

* "American Medicinal Plants," an illustrative and descriptive guide to the American plants used as homoeopathic remedies, their history, preparation, chemistry and physiological effects. By Charles F. Millspaugh, M.D. The work is illustrated from drawings of each plant *in situ* by the author. Fascicle II. Boericke & Tafel, New York and Philadelphia.

small, fire off their guns (also large and small), and, when quiet came, to have our individual "say," like Dunderberg's bird, "flocking all alone by itself."

One saves much by such a method. In the first place, one is spared the trouble of inventing the nice things that our critics always write about our publications, and when they have all done their prettiest, it is so easy to outdo them by simply fusing their combined wit and wisdom and palming it off as one's own. It is a pity to "give it away," but many of our critics have won and still wear their spurs by their prowess in this line.

In the second place, one can learn so much by waiting. For instance, you can get at the standing of a school, or a sect, or a creed, or an *ism* by hearing what its own critics say of it. Your critic should know more than the author, or he is not competent to criticise. Goethe is authority for that, and it is not wise to challenge him. I don't think our critics will. I am certain they will allow that Goethe has said it exactly—so far as they are concerned. But, dear reader, on this you and we are at one, namely: the condition of a school, sect, creed or *ism* is unerringly denoted by the *quality* of its criticism; for if a critic knows more than his author, then the one is the measure of the other.

Now, be it observed, our critics have been singularly unanimous in praising the work under notice—ample evidence that they know a good thing when they see it. Well, the said work should be praised. Here is an author *nascitur non fit*. As a boy in school, he was always making "pictures" on his slate. The love of the beautiful informed his very fingers; even from the egg was he a limner; and as he grew, the fields and forests had in them a charm and a spell that he did not resist; he sought Nature at only one remove from the Maker's hands. And now, by his cunning pencil, these things of beauty almost bloom for us in our dusty offices despite the din and devilry of modern life. To how many will this man be even a magician, at whose bidding flowers live forever!

Have you stopped to find the secret of his success? Have you learned that he works in love; and when did work done in love ever fail of the blessing? My friend, has thine earnest doing failed again and again, until hope has swooned and thou art even asking, Who made this universe? Did'st thou work in love? Then, take heart! the earth may pass away, the blessing cannot. Write that in thine heart and wait.

Our picture-making author needs no praise from our poor pen; take his book in your hands, go to the woods, the fields, to the shady nook, to the rippling brookside—these are his witnesses, and in their presence we are hushed.

But no critic has yet divined the deeper lesson of this work—a lesson that shall keep the waning hope alive in many a heart.

Our author has had recourse to Nature; has not disturbed Nature; has drawn each plant and flower just as it came from the hands of God.

Do you catch the meaning of this "new departure"? Have we not been smitten with the murrain of criticism? Have we not had a delirium of "microscopical investigation," wise ones seeking to see the invisible? Are we not having a "Revised" Bible and a "Reliable" *Materia Medica*? Have we not two national societies finding truth by vote of the majority? Was ever that done in all this world's history? Babel was followed by a confusion of tongues, but our endeavor is bringing only a confusion of brains.

Look at the outcome; two of our *quarterlies*, long moribund, now stone dead, by verdict of a "crownner quest." Some of our other journalism, semi-paralyzed, drivelling nonsense, inane platitudes and imbecile mumbblings.

Now comes a streak of light in the East; *one* author has had recourse to Nature; a God-sent bell-wether, may the flock follow his lead!

Suppose we go to Nature with our much-damned "Encyclopaedia" in our hands and ask her to point out its "errors." Suppose we prove drugs instead of poring over texts.

Once upon a time Wahle found much fault with Hahnemann's proving of *mezeureum*. Did Wahle ransack libraries, criticise the "text," find errors in the translation?

He re-proved the drug, and now a fool cannot mistake the place and the power of *mezeureum*.

No physician above forty years of age accepted Harvey's discovery of the circulation, and the fact is ominous. You see they have "veterans" in the American Institute of Homoeopathy, jolly old fellows, far more ornamental than useful, their *forte* the "Banquet," "Science" their foible.

Them the Lord in His providence, will duly remove—meanwhile our hope is in the young men; no "sap rot" in them, only healthy growth. To them commend we Dr. Millspaugh's example: *go to Nature*.

Devoutly interrogate and listen: haply you shall catch replies that have in them "the healing of the nations," and the only elimination of errors known to science.

S. A. JONES.

ANN ARBOR, June 15.

N. B.—We have forgotten to state the price of Millspaugh's work. Judged by its value, I shouldn't like to state it; but Boericke & Tafel can speak by the card to any inquirer.

TRANSLATIONS, GLEANINGS, ETC.

A MODIFICATION OF HIGH SECTION.

BY DR. GEZA VON ANTAL.

Translated by E. C. Jeffords, M.D., Ward's Island.

AFTER opening the bladder above the pubic arch—whether the object of the opening has been to remove a stone or to extirpate a new growth—heretofore healing by first intention has been very seldom obtained by means of suturing the bladder. According to the tabulation of Willy-Meyer in forty-one cases of sewing the bladder, which were performed prior to the end of 1884, such a result was obtained in only sixteen cases, in which Lambert's method of sewing, as recommended by Vincent, was employed.

The cause of this frequent absence of primary union is, according to my view, to be looked for not in the material of the sutures nor in their introduction, but in the thinness of the bladder walls, and in consequence of this in the small extent of the wound surfaces.

Starting from this idea, I have reasoned out a method, by which the surfaces of the wound which come together, are made two or three times as large as those which, up to this time, we have always had in our openings.

The opening into the bladder, in high section, has always been made by a cut at right angles to the bladder wall. My procedure, which differs from the above, is as follows: Having filled and distended the bladder, and having opened the abdominal walls and laid free the anterior part of the bladder, which is not covered by the peritoneum, I make an oval incision into the outer layer of the bladder wall, whose longitudinal axis is parallel with that of the body, and whose length, changing with the cause of the operation, is determined beforehand by the stone, whose diameter we know; the trans-

verse diameter of the oval is 1-1½ cm. Then, holding the blade of the knife flat, I raise up that part of the outer layer which has been cut around, from the muscular layer in such a way that as I gradually approach the middle line I take away a part of the muscular layer also. After this flat, funnel-shaped cut is finished the mucous membrane of the bladder, which is seen in the middle of the cut, looking bluish gray, is cut through. In this way the bladder is laid open for further operation.

In cases of a thin bladder wall, the removal of an oval piece of the outer layer is sufficient. In this way we have not a flat, funnel-shaped wound surface, but simply a flat one.

This flat, or flat funnel-shaped wound can be made even after a previously-made vertical opening of the bladder, if a thin rubber balloon, which is pressed together, be passed into the bladder through the opening which has been made, and then inflated. In this way the bladder, as well as the wound surfaces, which have been folded and rolled upwards, is distended and becomes smooth.

The sutures are carried through only the outer and muscular coats of the bladder, and do not include the mucous membrane, partly to prevent incrustation of the sutures, partly to obviate the passage of urine along the course of the sutures. For sutures, I prefer the silk prepared in corrosive sublimate, to catgut, since the latter may give way prematurely. Moreover, in those cases in which—for example, in the removal of a new growth—a section of the bladder of greater extent is necessary, the metal sutures, because of the increased tension, promise still greater safety.

My method of operating as described above, though previously tried on the cadaver, I attempted on the living for the first time on the 9th of March of this year. The case is as follows:

John G., five years old, son of a peasant of Nadab, has suffered for three years with dysuria. An examination of the bladder revealed a stone whose diameter was proved by a lithometer to be 2-2½ cm. The urine was acid, contained some albumen, pus and blood corpuscles.

On the 9th of March of this year high section, with a filled and distended bladder. Flat, funnel-shaped removal of the outer and middle layers of the anterior bladder wall in the form of an oval whose longitudinal axis was 3 cm., transverse axis 1½ cm.: Vertical opening of the mucous membrane 2 cm. long. Extraction without any difficulty. Oxalic acid stone of 3.19 g. weight. Nine interrupted sutures of silk prepared in corrosive sublimate, which did not include the mucous membrane; closure of the abdominal walls with interrupted sutures. Lister dressing. Introduction of a Nélaton catheter through the urethra into the bladder, every two hours washing out the bladder with salt water. Half sitting posture. March 10th: The urine coming through the catheter is clean, patient free from fever, appetite good. The wound in the abdominal wall shows no infiltration and is painless.

March the 11th, 12th, and 13th: A similar condition. March 14th: In the morning no fever; in the evening, temperature, 38°.2, the wound of the abdominal walls unchanged; in changing the catheter the foreskin and urinary meatus show superficial gangrene from pressure. March 15th: In the morning, no fever; at evening, temperature 38°.5; appetite good; the sutures of the abdominal walls with two exceptions are removed, primary union. March 16th: In the morning, no fever, at evening, temperature 38°.2, the sutures in the abdominal walls are all removed, no infiltration, no pain, no fever; complete union of the wound. March 18th: Removal of the permanent catheter. On the ninth, patient urinates in customary way; no fever. March 21st: The patient is dis-

charged from the Royal Hospital at Budapest, completely cured.

In this case, as is seen in the above mentioned operation, complete healing was obtained within eight days. The slight appearances of fever at evening are to be ascribed to the inflammation of the urethra and the superficial gangrene from pressure excited by the catheter, which ceased together after the removal of the catheter.

Although I have operated according to my method, as mentioned above, upon only one patient, which I have reported, I think the report of this is justifiable, partly because I believe that the advantages of this are strikingly superior to the methods which have been previously employed, and because, on the other hand, while I am thoroughly investigating similar cases, I offer to others the opportunity to try this procedure and thoroughly test it—*Centralbl. für Chirurgie*.

NEUROSES OF THE GENITO-URINARY ORGANS.

BY PROF. ROBERT ULTMANN, OF VIENNA.

Translated by W. Storm White, M. D.

FOURTH ARTICLE.

PARESIS and paralysis of the sphincter and muscular coat proper of the bladder are to be mentioned among the motor neuroses of the urinary track, and especially those of the bladder which are accompanied by lessened power of muscular contraction. Paresis of the sphincter is frequent with incontinentia urinæ, and that of the bladder muscles is frequently accompanied with retention of urine. Paresis of the bladder signifies an impossibility of completely emptying it, and the term is usually applied to paresis of the detrusors.

Otherwise healthy men sometimes experience a lessened desire for micturition, and I have often seen cases where it occurred only twice in twenty-four hours. One patient, in particular, a young man in vigorous health, told me that he never had any desire and that he urinated merely from force of habit morning and evening. He said that he could go twenty-four hours, only micturating once in that time, and he once came to me saying that he had not passed water in twenty hours. I told him to urinate, and after considerable waiting and urging he passed about a litre of normal urine. The bladder could easily be felt over the symphysis and he only complained of difficult, and infrequent desire for micturition, and I prescribed alkaline (soda) waters, massage of the bladder, cold douche on the thighs after a warm bath and to micturate at least five times each twenty-four hours. He must go to the urinal every four hours and try to pass water. By this treatment the patient was soon enabled to urinate normally, that is, four or five times daily without urging.

Paresis of the detrusors is either connected with material changes in the muscle fibres (hypertrophy, fatty and amyloid degenerations), or we have to deal with a motor neurosis.

The impossibility of completely emptying the bladder is most easily diagnosed by allowing the patient to urinate, and then passing a catheter.

A normal bladder should be so well emptied by micturition that nothing can be obtained by catheterization. If the spontaneous voiding of the bladder is insufficient, we will always be able to draw off more or less urine with the catheter, and the quantity of urine so drawn off will measure the degree of the insufficiency of the bladder. The more the urine, the greater, usually, is the weakness of the detrusors.

I say usually, because there are cases where the voiding is insufficient from mechanical obstructions, such as strictures of the urethra, chronic prostatitis, and hypertrophy of the prostate. In such cases we generally find hypertrophy of the muscles of the bladder as a complication. If such a mechanical obstruction is not present, we have to deal with paresis or paralysis of the detrusors. Patients usually complain of urinating with difficulty; they must always wait and press and strain some time before the urine will flow, and although there is no pain when it does come, the stream does not form a curve but simply drops straight down just as rain water drips from the eaves. They cannot urinate at all lying down, and the urine flows best when they are standing up with the body bent forward and pressure on the abdomen. The more incomplete the emptying of the bladder, the oftener will come the desire, and still they are never at ease after the completion of the act. If the paresis gradually develops into paralysis, incontinence during the night develops, which slowly becomes permanent. The patient feels all right in his lower abdomen; he urinates more frequently, although the urine only comes in small quantity on pressing the abdomen, and continually dribbles away from him at other times. They never feel satisfied after urinating.

Lameness of the bladder is usually found in those diseases of the brain and spinal cord which have a chronic course. It, however, also appears in different acute febrile processes when they are complicated with cerebral symptoms, being then generally temporary. As a rule, insufficiency is one of the common failings of old age, although there may be no pronounced paresis. In youth a paretic condition of the bladder, particularly of the detrusors, occurs in individuals who hold their urine too long, or in those who suffer from spasmodic contraction of the sphincter vesicæ following excesses in venery or onanism. It has already been mentioned that first hypertrophy and later paresis of the vesical muscles occur with swellings of the prostate, strictures, or other permanent obstructions to the flow of the urine. Occasionally we can recognize the two following forms in single clinical cases of paresis and paralysis of the bladder—first, where the sphincter, and secondly, where the detrusors are affected.

Incontinence is only found in advanced stages of lameness of the bladder; because the sphincter still closes, and the urine first dribbles away when it has become over-filled, the same as a vessel filled to the brim will overflow on the addition of more fluid. In paresis of the sphincter, on the contrary, incontinence appears much earlier because the closure of the bladder is incomplete. This incontinence usually appears first in the day-time when the patient is in the perpendicular position, as the pressing downwards from above upon the weakened sphincter overcomes it much easier than if he was in the horizontal position in bed. Further than this, retention occasionally appears with paresis detrusorum, which does not commonly take place in that of the sphincter. A large quantity of urine collects in the bladder, as can only occur in paresis detrusorum, and forms a heavy mass which impedes the blood circulation of the prostate and neck of the bladder by its pressure, causing an oedematous swelling of the prostate and the retention of urine.

The differential diagnosis is sometimes much easier to make by the examination of the patient. If merely the detrusors are paretic and the sphincter still sufficiently powerful, we will find the bladder extended, projecting above the symphysis like a fluctuating tumor, or at least as a sack partially filled with fluid, upon which pressure will produce a desire to urinate in the patient. Although he states that he has just passed water, we discover an area of dullness on percussion,

extending several finger-breadths above the symphysis. In paresis of the sphincter we can never feel the spherical form of the distended bladder over that point. The sphincter is so weakened that it is unable to withstand the pressure of a large collection of urine in the bladder; the urine is involuntarily discharged. Therefore a large quantity of urine is seldom found, and in some cases we are unable to discover any distention of the organ causing it to extend above the symphysis. If a catheter is passed in paresis detrusorum there will generally be great resistance experienced at the neck of the bladder, while the instrument will, so to speak, almost fall into the bladder, without resistance, in paresis of the sphincter, and a larger quantity of urine will be found in the former than in the latter. Not unfrequently these two forms are developed in the same case, and these typical conditions cannot be discovered.

If the urine flows through the catheter, with the patient in a horizontal position, we remark a relatively strong stream at first which, however, soon becomes weaker and the urine finally drops straight down in a weak stream. It is only on coughing or using abdominal pressure that a curved, powerful stream is produced, and this soon becomes weak. The urine finally ceases to flow, yet if we press with the hand on the fundus of the bladder, or let the patient gradually arise and lie down, the urine will always flow from the bladder in greater or less quantity.

The urine is either normal, or shows a neutral or weakly alkaline reaction with the presence of neutral earthy phosphates. Sometimes, indeed, the urine will be voided turbid and alkaline without any catarrh of the bladder being present, the turbidity and the whitish sediment being caused by the earthy phosphates. Amorphous or granular carbonate of lime, crystalline phosphate of lime, and sometimes long rectangular tablets of crystalline magnesium phosphate, are found in the sediment. I have also found as high as two per cent. of sugar with paresis of the bladder without there being any other symptoms of diabetes and this has totally vanished after some months or years without any treatment for glycosuria. If the retention lasts for a longer time, a purulent catarrh of the bladder or a purulent cysto-pyelitis may be developed, and in both the sediment and the urine we will find the characteristics of these diseases, such as albumen and carbonate of ammonia in solution and pus corpuscles and crystals of ammonio-magnesia phosphate in the sediment, together with epithelial cells from the bladder and kidneys. This catarrh of the bladder arises very easily if the bladder has been explored with sounds or catheters. The prognosis in paresis of the bladder is not very favorable, and in most cases the urine must always be drawn off with the catheter.

This must be explained to the patient or he will afterwards blame the physician, claiming that he has so injured the bladder by constant catheterization that he can no longer void his urine without the instrument, as he could before commencing the treatment.

The greater the quantity of urine which can be drawn off, the less favorable will be the prognosis regarding the return of the contracting power of the bladder.

Not infrequently, an inflammation of the bladder which may threaten the life of the patient may follow the constant use of the catheter.

The old expressions, which were formerly used in the motor neuroses of the bladder, such as incontinencia urinæ, strangury and ischuria, are not used here, as they are only general diagnoses and have been used in designating the most different forms of disease. I will, however, give the etymology of these terms as they are sometimes used. Incon-

tinencia urinæ (*in* and *contineo*, to hold together, to hold fast) means the impossibility of holding back the urine, and it is very evident that this may occur in different diseases of the urinary organs. Strangury (from the Greek, meaning the urine, and I press, force or strain) means an urging to micturate when the urine only flows drop by drop and with pain. Finally, ischuria (to hold, to hold back, and the urine) means a retention of urine and occasionally a difficult or impeded micturition.

The therapeutics of paresis of the bladder is varied. In slight cases where lazy habits have produced a tendency to slothful and infrequent urination, in persons of strong constitution, massage of the bladder with regular times for urinating and the use of diuretics (or sometimes carbonic acid water) will be all that is required; gymnastics, travel, cold hipbaths, cold sponging of the whole body, douches on the perineum, over the bladder and small of the back, also pouring cold water on the back immediately after a warm bath, are very favorable to the production of contractions of the bladder.

The internal remedies which can be used with good results are chinin, ext. secalis cornut., and strychnia. The chinin or secal may be given 0.5 gramme daily. The strychnia in one of three ways:

(1.) Internally,

R Strychnin. sulph. 0.02
Sach. alb. 3.00

M. f. pulvis div. in dos. no. sex.

S. One or two powders daily.

(2.) Endermatically, as a local application over the mons veneris, after having shaved off the hair and removed the epidermis by blistering, according to the following:

R Strychnin. nitric 0.10
Sach. alb. 5.00

M. div. in dos. no. decem.

S. Apply one powder locally each day.

(3.) Hypodermically,

R Strychnin. nitric 0.05
Aqu. destillat. 10.00

M., S. one half to one Pravaz's syringe full once daily.

The best place to make the injection is over the bladder into the abdominal walls. These remedies must be discontinued as soon as there are symptoms of an increased muscular irritability.

Electricity may be used, either the constant or induced current, by introduction of one pole into the bladder, while the other is laid on the small of the back or shoved into the rectum. I do not recommend this use of catheter-shaped electrical poles until a later period of the treatment, till a regular course of catheterization has been persisted in for weeks and months. An excitation of the bladder is harmful at the beginning because it acts too powerfully on the mucosa, setting up a purulent catarrh of the bladder. In the later stages, however, if there is no purulent pyelitis or nephritis present, this manner of using electricity is often followed by good results. In paresis of the sphincter the pole is to be introduced only into pars prostatica urethrae.

Faradization, producing contractions of the sphincter vesicae, can be accomplished from the rectum in the same manner, as will be more fully explained under the heading of enuresis, and is to be particularly recommended in sensitive patients, as no pole is introduced into the urethra.

Notwithstanding all that has been said, catheterization still remains the best therapeutic measure, and it will be very seldom that a chronic case will show any improvement without its employment. Vulcanized rubber catheters (Nelaton's) should be used at first in order to produce no irritation of the parts,

and this must be carried out regularly, so as to completely empty the organ and force its gradual contraction.

There are no difficulties in using the catheter in paresis of the bladder, and the patient soon becomes accustomed to it and in favorable cases he will be able to gradually lessen the introductions, and finally to cease them altogether.

But this is not the course in unfavorable cases, where catarrhs and parenchymatous processes in the bladder and kidneys, with the formation of abscesses, are presented, and sometimes death occurs very unexpectedly in a short time. The relations of pressure within the urinary organs exert a great influence upon the success or failure of an operative treatment. While we are able to enter the bladder freely, in the healthy state, and can leave the catheter in position for a considerable time, without bad results, we occasionally see the most violent and dangerous complications produced by the simple introduction of the instrument into the bladder which has a weakened power of contraction and a negative pressure. I have seen several cases where the first introduction, in light grades of paresis of the bladder, was followed by cysto-pyelitis and pyelo-nephritis with violent febrile action.

In every case of paresis and paralysis of the bladder such a reaction, with inflammatory symptoms in the urinary track, makes its appearance on catheterization that a continuance of the treatment becomes impossible. The patient feels much relieved by the first passage of the catheter, and cannot sufficiently thank the doctor; the experience on the second will be the same, but on the third he will begin to complain of depression and general malaise, the urine becomes turbid, the fever increases, and on the fifth or sixth day after the first catheterization the first heavy chill occurs, which makes it impossible for him to leave his bed. We can easily explain why the larger the quantity of urine which must be withdrawn and the more advanced the insufficiency of the bladder, the greater will be the reaction. There are cases cited in medical literature where patients have been placed in the upright position and large quantities of urine drawn off by the catheter, and at the end of the operation they have suddenly dropped down dead. It is therefore always advisable to place the patient in a horizontal position. Occasionally, there are cases in which the first urine appears perfectly normal and the patient is otherwise well and strong and yet he dies with all the symptoms of uræmic poisoning after the lapse of from eight to ten days. It is in these cases that we find a cysto-pyelitis (purulent) and sometimes an ordinary acute suppurative nephritis developed as complications. There are also cases in which the urine becomes very bloody about the third day. The hemorrhage is usually parenchymatous, coagula are not present, yet we are able to discover that it comes from the whole urinary track and not from the bladder alone, from the presence of stained epithelial elements and the so-called blood cylinders in the sediment. The urine is sometimes red and sometimes brown or black, and later, when a purulent catarrh of the bladder has developed, it becomes brownish green, the reaction strongly alkaline, and the odor foul and stinking. In other words, we have to deal with a hemorrhagic cystitis or cysto-pyelitis, with or without suppurative nephritis. We occasionally find an excessive development of bacteria, on examination of the sediment microscopically. We not only see isolated chain bacteria having two to four members, rapidly moving about the field, but also large masses and shreds consisting of motionless bacteria. When these originate in the bladder they appear as large, irregular membranes, but they may also be found as high as the kidney, where they stop up the uriniferous tubules. When these plugs from the kidneys occur in the urine, they appear under the microscope as

cylinders composed throughout of motionless bacteria (in nephritis parasitica, according to Klebs). In cases of this kind, with nephritis suppurativa, the prognosis is almost always unfavorable. There are also cases where the nephritis does not attack the whole kidney and the patient apparently recovers in a few weeks, but the diseased condition of the organ remains and soon becomes associated with an interstitial nephritis, from which he will surely die in from two to three years.

Parenchymatous processes in the urinary apparatus very frequently follow catheterization, and the patient is confined to his bed with fever. At first the urine has but a small amount of purulent mucus and a corresponding quantity of albumen. There suddenly comes a severe chill, which is soon followed by a second and third and finally the discharge of a large quantity of pus, and an improvement, which is of short duration. The chills again take place, and there is a repetition of the former process. These exacerbations and improvements may continue for weeks and months, and result either in a lasting improvement or the death of the patient. We are, however, still able to discover the evidences of a cysto-pyelitis in the urine, and sooner or later, a nephritis will gradually develop.

The cause of this unpleasant complication after the emptying of the bladder with the catheter is to be sought in the pressure relations within the urinary organs. In paresis and paralysis of the bladder the urine can never be wholly voided, and a greater or less quantity always remains behind, which exerts a certain pressure on the walls of the bladder. The urine flowing from the kidneys adds to this pressure; the ureters also become distended and suffer from the increased lateral pressure. The functional activity of the kidneys is interfered with by the collection of large quantities of urine in the bladder and ureters. As the urine cannot flow freely from the tubules, because of the retention, the kidneys must work more actively—that is, with an increased pressure, in order to overcome that of the collected mass of urine.

That this increased pressure in the excreting portion of the kidneys really exists is proved by the detection of a large or small amount of albumen in the urine which is voided voluntarily. Now, in such a case as this, if all the urine be drawn off at once by the catheter, this pressure will be suddenly removed, and its having been present perhaps for years will cause such a change that a negative pressure results, I might almost say a hyperæmia *ex vacuo*, and an inflammatory process must almost necessarily follow.

In more favorable cases, this hyperæmia *ex vacuo* will produce only a purulent catarrh of the bladder, ureters, or pelvis of the kidneys, and we will simply have to deal with a cystitis or cysto-pyelitis. In more severe cases, parenchymatous, inflammation of the prostate, bladder, etc., with the formation of abscesses, will be added. In other severe cases, parenchymatous hemorrhage from the whole urinary apparatus will join the previously existing cysto-pyelitis, and an itching in the bladder will be caused by the decomposition of the urine. Finally, severe cases may develop into such a condition that the patient will present the symptoms of nephritis suppurativa.

As these unpleasant phenomena are not of rare occurrence, following the complete emptying of the bladder by catheterization we cannot take too many precautions, or exercise too much discretion. If the paresis of the bladder is somewhat advanced, it is always advisable to put the patient to bed, and never completely empty the bladder the first time the catheter is introduced. If the bladder contains a large quantity of urine, I usually draw off from 490 to 500 c.c., and send him home, telling him to go to bed. After he has done this, I then gradually and completely empty it.

If the bladder contains less than 400 c.c., and I have unwittingly drawn it all off, I do not let the patient go away with an empty bladder, but inject 100 c.c. of $\frac{1}{2}$ carbolic acid solution and send him to bed.

If the patient will only promise to keep in bed for some time (say two to three weeks), we can gradually restore the former pressure relations in the urinary organs by regular catheterization, with relatively slight inflammatory processes; and although the patient is in bed, we may have most violent symptoms in the urinary organs.

After the patient has been undressed and put to bed, the bladder is to be completely emptied by a soft catheter, and washed out with a $\frac{1}{2}\%$ carbolic acid solution, and about 100 c.c. of it left in the bladder. This latter must be done after every injection, and the quantity gradually decreased to a few c.c.'s in proportion to the power of contraction exhibited by the bladder. The injection of the carbolic acid solution has the advantage of not leaving the bladder empty, of not allowing the walls to come in contact, which occasionally causes the patient extreme pain, and of destroying the bacteria which are developed in the urine, and which may go upwards till they reach the kidneys. Pressure on the abdominal walls over the bladder is not necessary, as a proper declination of the soft catheter after its introduction will completely empty the organ. In the commencement of inflammatory diseases of the bladder, the pressing out of the urine with the hand very frequently favors the development of parenchymatous processes.

If the paresis is of a light grade, and the patient is able to pass urine voluntarily after repeated catheterization, we may draw off the urine and wash out the bladder once a day. If he cannot pass his urine voluntarily, we must do this at least three times daily, and if urging to micturition is present, oftener.

As after-treatment, internal medication, electricity, etc., may be used with advantage, as has been before described.

In paresis and paralysis of the sphincter, where incontinence is present and the patient has to wear a receptacle to catch the urine, catheterization must be done every one, two or three hours, and a galvanic treatment of the sphincter used. If the sphincter is gradually strengthened by electricity, the intervals between the catheterizations can be gradually lengthened.

MOVABLE LIVER.—A case is recorded by Maack in which a woman of thirty-five years of age, unmarried, complained of pains on the right side of the abdomen, which pains, it appeared, had been coming on for eleven years. A mass was discovered in the right iliac fossa similar in size and shape to the liver, which was absent from its proper place. It could be kept in position by a bandage. The cause of the floating liver appeared to be the presence of an old echinococcus cyst in the suspensory ligament.—*Centrabl. f. Chirurgie*, Page 63, No. IV, 1885.

NAPHTHALIN AND THE DECOMPOSITION OF THE URINE.—After discussing the changes which naphthalin undergoes in the alimentary canal, Rossbach points out its great use in preventing the urine from decomposing. One to two grains has so powerful effect, that in a case of rather severe vesical catarrh the decomposition was almost completely arrested after two or three days. In slighter cases one or two days is sufficient to effect a complete cure. In the worst cases of tuberculous disease of the urinary tract, where the lungs were affected as well as the kidneys and bladder, five grains administered daily produced a very marked diminution in the number of bacteria, the sediment was lessened in amount, and the pain much relieved.—*Centrabl. f. Chirurgie*, Page 10, No. I, 1885.

ETIOLOGY OF CHOLERA.—Both Koch and Klein have come decidedly to the conclusion that, whatever the cause of cholera may be, neither the blood nor any other tissue contains comma bacilli or any other micro-organisms of known character. We may thus set aside at once the question of how far the symptoms of cholera are due to the presence of organisms in the blood, and consider the other possible causes of the disease. These are two. *First.* We may regard cholera as a local disease, due to changes in the alimentary canal, and affecting the general system only in so far as reflex influences conveyed by the intestinal nerves will affect the circulation and respiration, and as the withdrawal of water from the blood by the copious discharges into the bowel will affect the circulation and modify tissue changes generally. *Second.* We may regard cholera as both a local and a general disease, and suppose that in addition to the local alteration in the intestinal canal already mentioned, there is a condition of poisoning throughout the whole organism due to a chemical substance produced in the intestines, absorbed from them into the blood, and carried throughout the body by the circulation. Perhaps this distinction may be rendered clearer by an illustration. Suppose a man to eat a half-ripe apple, the irritation produced by the indigestible material in the alimentary canal may produce vomiting and purging. The irritation may, reflexly, through the nervous system, cause rapid respiration, a weak pulse, and a pale skin. But no poison has been absorbed into the blood; the symptoms are all due to the local action of the indigestible material upon the intestine, and we cannot separate from the apple any poison which, when injected into the circulation in small quantities, will produce similar symptoms. Let us suppose, however, that a man eats poisonous mushrooms. Then we have vomiting, purging, paleness of the face, and general depression, just as in the former case; but in addition to this we have a thready pulse, extremely rapid respiration, a somewhat cyanotic condition, and probably death, these further symptoms being due to the absorption of a chemical poison, muscarine, from the intestines into the circulation, where it acts upon the nervous system and heart. Which of these two kinds of poisoning does cholera most resemble? There can be little hesitation in answering that it resembles poisoning by mushrooms rather than by green apples, for the disease is not only extremely and rapidly fatal—but we find that the local changes in the intestine are not at all in proportion to the severity of the attack. In some of the most rapidly fatal cases the changes in the intestinal canal are very slight indeed, whereas in others, which have been less severe and less rapidly fatal, the intestinal lesions are very well marked. All the evidence that we have before us goes to show that the symptoms of cholera are produced by a chemical poison, which, in Koch's opinion, is formed in the intestines under the influence of the comma bacillus.—T. LAUDER BRUNTON and P. H. PYE-SMITH, *Practitioner*, May, 1885.

CELLULOSE AS A SURGICAL DRESSING.—Many as are now our articles for surgical dressings, Dr. Fischer, of Trieste, proposes in the *Zeitsch. f. Therap.*, that we should add cellulose to the list. He claims for it the following advantages: 1. It is absolutely free from substances capable of exciting putrefaction. 2. It has a very low specific gravity. 3. It produces neither eczema nor erythema upon the epidermis. 4. It retains moisture and heat perfectly for more than twenty-four hours. 5. It never adheres to granulating wounds or the surface of the skin. 6. It adapts itself perfectly to the outline of the place of application. 7. It is much cheaper than other materials heretofore used for similar purposes.

THE NERVE AGE.—Speaking at Brighton recently, in behalf of the National Hospital for the Paralyzed and Epileptic, in Queen's Square, Bloomsbury, Dr. Crichton Browne dwelt on the conditions of modern life which tend to produce nervousness, both as a temperament and a disease. "In the history of civilization," he said, "we have had a stone age, a bronze age and an iron age; and parallel with these in the history of human development we have had a bone age, a muscle age, and a nerve age. With the application of iron to the manufacture of machinery and the substitution of steam power for brute strength, the strain of existence was transferred from the muscles to the nerves. The sons of Adam eat bread now, not in the sweat of their faces, but in the fever of their brains, and thews and sinews are of small account in comparison with nimble nerve fibres." The mortality from nervous diseases appears to be advancing rapidly. Apoplexy, neuro-cephalus, and paralysis, are, according to Dr. Crichton Browne, carrying off a larger number of victims year by year. They caused 105,189 deaths in the period of five years, 1861-65, and 145,503 deaths in the five years, 1876-80.

HEALTH OF THE CHINESE.—The Chinese Consul in New York states that, despite the apparent neglect by the Chinese of most laws that to our ways of thinking are absolutely essential to the preservation of health, it is rare that one of the race dies of a zymotic disease. He says that his people have been studying the laws of health for the last thousand years, and that they have, to this extent, mastered those laws is proved, to his mind, by the circumstance that contagious disease is seldom found among them.

PHOSPHORIC GLASS.—A variety of articles made from so-called phosphoric glass, which is composed simply of phosphate of lime, have been exhibited to the French Academy of Sciences by Mons. Sidot. Unlike ordinary kinds, this glass resists the action of fluoric acid, and it will probably be useful to chemists and others on that account. A novel use of it in connection with cremation is suggested by Mons. Henri de Parveille, who proposes that the phosphate of lime remaining as the ashes of each burned body be converted into phosphoric glass, and then be moulded into a vase, medallion or statuette of the person from whom it has been derived.

OIL OF CADE.—Dr. Amory, who has recently visited the Department of the Var, in Southern France, where the *huile de cade* (*oleum cadini*) so much employed there in cutaneous affections, is distilled from the *juniperus oxycedrus*, read a paper at the Suffolk Medical Society giving some account of its production. It is distilled in rude earth ovens by the peasantry, and sold to the merchants without having undergone any purification, from Toulon, Marseilles, and especially Nîmes, which is its chief centre of distribution. It has long been known as an efficacious sheep-wash. It is too cheap to tempt adulteration, but there is no test of its purity known. Its advantage over the oil of tar would seem to consist in its somewhat less disagreeable smell.—*Boston Medical and Surgical Journal*.

PARALDEHYDE IN MENTAL DISORDERS.—From a German exchange we learn that Benda has used paraldehyde as a hypnotic in thirty-four cases of mental disorder, in doses varying from f3ss. to f3ij. In one-half of the cases, sleep was obtained by doses not larger than f3j. and lasted during the whole time that the remedy was used. The drug was at first given in oil, but wine was subsequently found to be the best vehicle, sleep being produced in fifteen minutes at most. It is said to be a much safer and effective hypnotic than chloral or the bromides, being accompanied or followed by no

unpleasant symptoms, and the sleep nearly corresponding to natural sleep. In nervous headache its action is prompt and pleasant. The dose is about thirty drops, repeated in an hour if necessary, and given in a little water or an elixir.

PROPHYLAXIS AND TREATMENT OF CYSTITIS IN FEMALES.—Prof. Kuestner, of Jena (*Deutsche Med. Wochenschrift*), says that the most frequent cause of cystitis in females is the carrying in of septic material by the passage of the catheter. To prevent this, it is necessary to dispense entirely with the instrument now in use, and employ those only which allow of a perfect disinfection. The instrument made after the author's plan (O. Moocke, of Leipsic) are long glass tubes of the thickness and length of the usual catheter. They have no turn, as this, from the anatomical arrangement of the female urethra, is entirely unnecessary. The opening to be passed into the bladder is cut slanting, edges being quite smooth. Since this catheter has been introduced into the clinic no case of cystitis has appeared which could be said to have its cause in infection through the catheter. The author describes the instrument for washing out the bladder which has given him, so far, the best results. It consists of an elongated glass funnel, the opening which enters the urethra being quite smooth and having a tube attached with a gland-shaped extremity. The tube of an irrigator is filled with a disinfecting fluid and drawn over the knob. A tube is attached and placed in the funnel; with a gum arrangement complete separation between the funnel and the other tube can be made. Formerly the author used a weak solution of carbolic acid with which to wash out the organ, but latterly he uses a bichloride solution 1 to 5,000. It is not permissible to inject the bladder oftener than twice a day.

SEA ATMOSPHERE MANUFACTURED TO ORDER.—Dr. B. W. Richardson, of the *Asclepiad*, is nothing if not original. His latest suggestion is of a formula which, while not disturbing the comforts of home and family, secures to the patient the benefits which have hitherto necessitated a journey to the sea shore. It consists of a solution of peroxide of hydrogen (ten volumes strength) containing one per cent. ozonic ether, iodine to saturation, and 2.50 per cent. of sea salt. This solution is to be diffused in the sick chamber by means of a spray producer of such fineness as shall require its operation for the space of an hour to consume two fluid ounces of the fluid. The effect is said to be the agreeable odor of the sea, while it is at the same time the best purifier ever suggested. Tested by the usual solutions and papers it has been found to be a most active ozonizing method.—*Therapeutic Gazette*.

A NEW SALT OF COCAINE.—Dr. L. Conner (*Detroit Lancet*) says that he has been experimenting with a new salt of cocaine. It is a combination of hydrobromic acid with cocaine. It appears as slender, translucent crystals of snowy whiteness. On experimenting with a four-per-cent. solution, it was found that anesthesia of the eye was produced more rapidly than with any of the other salts of the alkaloid, and that its effects were greater from the same amount of solution used. Further observations are needed to verify these results, but the combination would seem to be a most happy one.

PAINLESS TOOTH EXTRACTION.—Dr. Hepburn, in the *Independent Practitioner*, says that teeth can be extracted without pain in the following manner: The tincture of purified extract of cannabis indica is diluted with from three to five parts of water. This is applied to the gums by rubbing with the finger dampened with the solution. The forceps are also dipped into the solution before applying them to the teeth.

MISCELLANY.

—Dr. Rankin, of Washington, has used *grindelia robusta* in rheumatic iritis with marked benefit.

—Recent experiments indicate that normal power of taste will recognize the bitter of quinine when it is dissolved in 152,000 parts of water.

—Not a soldier in the Prussian Army has died of small-pox since 1875; their immunity is thought to be due to the strictness with which vaccination is enforced.

—Prof. Tyndall has stated that the purest water he ever obtained was from melting a block of pure ice. The water of the chalk districts of England he considers remarkably pure.

—Glonoine is recommended in the general dropsy and head symptoms resulting from contracted kidney. It is given in doses of from $\frac{1}{16}$ to the $\frac{1}{8}$ of a drop every two hours.

—M. E. Duchaux cultivated tyrothrix scaber, a species of microbe, and found that the light of the sun is fifty times more destructive than its heat, thus confirming its hygienic properties.

—Up to the middle of May, the number of cases of cholera from its first appearance last winter at Jativa, in Spain, was estimated at four hundred, with about one hundred and forty deaths.

—It has been said that swallows and sparrows forsake a district when cholera is about to appear—an important fact if true, and, if borne in mind, it might be, by observation, either established or refuted.

—The Town Council of Plymouth, Pa., where the epidemic of typhoid has raged, has properly been indicted for maintaining a nuisance and for criminal neglect of duty in not keeping the town in a good sanitary condition.

—Dr. Robert Amory writes to the *Boston Med. and Surg. Jour.*, from St. Petersburg, that Dr. Qvist, a Finnish physician, has succeeded in artificially preparing vaccine lymph which by inoculation will produce pure vaccine vesicles.

—Dr. Deschamps asserts that the microbe of scarlet fever is a bacillus shaped like a hair, with a long swelling of the upper part. It reproduces rapidly, but is easily killed by all the leading disinfectants, particularly by the new chemical, thymol.

—A Parisian experimenter has discovered that man is more sensitive to the effects of morphine than is any other animal. A dog can take five times as much of the drug, and a monkey fifty times as much, in proportion to their respective weights, as a human being.

—The Illustrated Medical Journal Company of Detroit, Michigan, will send for fifty cents four complete sets of perforated adhesive medical journal labels, including all journals in the United States and Canada. They are convenient for many purposes.

—Dr. W. A. Dayton, in the *New York Medical Journal*, claims great success in his clinic in the treatment of suppuration of the middle ear in consumption by the local use of a twelve per cent. solution of the peroxide of hydrogen and the administration of a two per cent. solution in tablespoonful doses internally.

—The Illinois State Board of Health has issued a circular, both practical and wise, to the county superintendents of schools, making suggestions regarding the "purity of the water-supply," "the condition of water-closets and privies," "drainage and policing of grounds," and "the condition of buildings."

—Investigation of the outbreak of typhus at Greenock, says the *British Medical Journal*, has shown that the great majority of the cases were traceable to direct, or indirect, communication with children attending school, and coming from the houses first infected at a time when the disease was not suspected.

—According to the *Ephemeris*, an examination of 3,726 prescriptions in a Boston drug store showed that 504 different drugs were called for by the doctors. Quinine took the lead by appearing in 292 prescriptions, morphine appeared in 172, bromide of potassium 171, iodide of potassium in 150, and muriate of iron in 144.

—According to the *Medical Record*, five per cent. of all the cancers are situated upon the tongue. The average duration of life in cancer of the tongue, without operation, is stated to be ten and a half months; with operation, sixteen months. In some cases—after operations—patients have lived from two to five, and even ten years.

—The International Sanitary Conference was opened at Rome, May 20, by Signor Mancini, Italian Minister of Foreign Affairs. The object of the conference is to effect an international agreement as to the best means of combating contagion compatible with commercial intercourse. Count Cordona was elected president.

—The Grand Jury made a presentment last week against the Board of Health of this city for delay and want of vigor in legally prosecuting violators of health ordinances. When the board's answer to the *ex parte* testimony before the Grand Jury is received it will be possible to judge how far the facts justify this severe condemnation.

—It has been discovered by experiments with dogs placed under the influence of morphia even to coma, that the hypodermic injection of solution of theine, is an almost instantaneous antidote, neutralizing the effect of the narcotic, and reviving the animal, after the action of the heart has become imperceptible. Caffeine possesses similar properties, but is less immediate in its operation.

—Professor Hensch, the celebrated authority on diseases of children at the Berlin University, has demonstrated the occurrence of kidney complications in varicella, and published four cases in evidence. It may be better to pay the same attention to children suffering from varicella as is done to those attacked by scarlatina, *i.e.*, keep them in the room and guard them against chilling of the skin.

—The *New York Medical Record* objects to the proceeds of the Saleswomen's Fair going to the Hahnemann Hospital on the ground that the sudden appropriation of the whole sum to that institution was unjust to the saleswomen and a cheat upon those who helped the fair. If the editor of the *Record* had taken ordinary pains to ascertain the facts, he would have learned that at a meeting of the managers, of which ample notice had been given, it was voted unanimously that the entire proceeds of the fair be given to the Hahnemann Hospital.

—Commissioner Purroy suggests that the worst streets in the tenement-house district of New York should be thoroughly washed during the night by means of the steam-engines and hose that could be temporarily spared from the Fire Department. He also says that the movable water-tank of the department can be utilized for conveying salt water to the places where it is to be used. The *Times* suggested this plan years ago.

—No two individuals have exactly the same anatomical structure; and nearly every one has in him some bony prominence, supernumerary muscle, or abnormal blood vessel which tells the tale of his descent. Scarcely one body is perfectly normal in every part. Some have as many as thirty or forty variations in their bones, muscles or arteries. Variations occur more frequently in negro and Indian subjects than in those of European descent.

—Columbia College has decided to add a course of sanitary engineering to the curriculum of the School of Mines. They will ask Dr. J. S. Billings, Surgeon of the United States Army, to deliver courses of lectures to students on hygiene, and instruction will be given in the use of the microscope. The course will begin in October, and students passing satisfactory examination, after four years of study, will be granted the degree of Sanitary Engineer.

—Miss Clara Louise Kellogg, in the New York *Critic*, hints at the sort of food which must be carefully avoided by the singer who would produce pure tones. Sweets, highly spiced food of any kind and nuts are hurtful, and ice water is one of the worst things for the throat. It should never be drunk just before singing, for it leaves the singer as hoarse as if she had caught a violent cold. Beef tea is of service, and many singers, including Patti, depend on sulphur in small doses. Coca is said to have a very good effect.

—The novel computation has been made by a German histologist that the human brain is composed of no less than 300,000,000 nerve cells, each an independent body, organism, and microscopic brain so far as concerns its vital relations. As each nerve cell is estimated to live about sixty days, 5,000,000 must die every day, about 200,000 every hour, and nearly 3,500 every minute. The dying cells are replaced by an equal number of their progeny, and once in every sixty days a man's brain is entirely renewed.

—The use of arsenic is alarmingly on the increase. The researches of Dr. Draper and Professors Wood and Austin show that it is extensively employed in wall paper, textile fabrics, writing and printing paper, candles, toys, confectionery, playing cards, theatre tickets, rubber balloons and balls, sweatbands of hats, paper collars and bed hangings, and in amounts sufficient to cause sickness and even death. Professor Austin recommends a law prohibiting its use in all materials consumed or employed in the household.

—The Spanish *Materia Medica* will probably hereafter devote considerable space to the healing virtues of the earthquake. During the recent shake-up at Malaga, it is said that the patients forgot all about their maladies and betook themselves to the open air. As no mention was made of their returning to their beds it may be taken for granted that permanent cure was effected. The chief drawback about the earthquake will probably be that it comes too high to admit of general introduction; but the science of the future may be able to invent seismic imitations which will answer every purpose.

—In the past thirty years the average of man's life has improved five per cent., from 41.9 to 43.9 years; and of woman's life eight per cent., from 41.9 to 45.2. Of every thousand males born at the present day forty-four more will attain the age of thirty-five than used to be the case previous to 1871, and every thousand persons born since 1870 will live 2,700 years longer than before. This is due to civilization, and especially to improved sanitary methods, which are adding to the average of human life at the rate of nearly ten years in every century.

—A new result of roller skating has made its appearance. It might be called the roller walk, and may be observed in the carriage of young women who frequent the alleged baneful resorts. It consists in a short, quick, outward turn of the heel as the foot is raised in walking. The opponents of the rinks say that this is but the precursor of foot-and-mouth disease, cerebro-spinal meningitis, small-pox, spavin, black-death and a host of other horrible ills which are bound to afflict the race which permits roller skating or any other form of bodily exercise in which both sexes join. He was a level-headed doctor who hired a house next door to a roller skating rink.

—The anti-vaccinators at Nelson, near Burnley, England, have just completed a house-to-house canvass of the rate-payers, who were asked to answer, in writing, the two questions: "Are you in favor of vaccination?" and "Are you opposed to compulsory vaccination?"—papers being left to be filled and subsequently called for. About 2,200 papers were distributed, of which about 2,000 were returned. Of these 360 were returned blank or otherwise informal, 1,534 rate-payers stated that they were opposed to compulsory vaccination, while only 81 declared for it. Of the 1,534 opposed to compulsion 1,220 are also opposed to vaccination; 216 did not answer the first question, and 98 are in favor of vaccination; 34 answered the first question in the affirmative, but did not answer the second; 31 rate-payers certified to cases of death in their families from vaccination, and 36 to cases of injury.

—Considerable importance is attached in Europe to the published results of the investigations which G. Tommasi-Crudeli, professor of hygiene in the University of Rome, has been making into the nature of malaria. The Italian savant's report is largely taken up with demonstrations of points which have been accepted for some time in this country, such as that it is not miasmatic exhalation that brings malaria, but infection through microscopical organisms which are bred in the earth and being carried into the atmosphere by air currents are inhaled by man. In order that the process of germ propagation and infection should go on, Professor Tommasi-Crudeli says three conditions are necessary: The atmospheric temperature must not be lower than 20° Celsius, a certain degree of moisture must be in the earth and the earth must be porous. He points out that the drouths in the Roman Campagna in 1881 and 1882 freed that fever-devastated territory of malaria, and finds proof of the theory that the Etruscans knew of the sanitary advantages of draining the soil, in the ruins of ancient drainage systems that have been turned up in the explorations made near Rome. He approves the recommendation of the American physicians that arsenic be used as a preventive. Acting on his advice, the Southern Italian Railroad Company has been giving its laborers daily doses of arsenic. Dr. Richi, the company's physician, states the effect to have been as follows: Out of 445 men who took the drug daily, 338 were either cured of fever already contracted, or were protected against attack; in forty-three cases the effect was not noticeable, and in seventy-four doubtful.